The Goulstonian Lectures

ON

SOME DISORDERS OF THE CEREBRAL CIRCULATION AND THEIR CLINICAL MANIFESTATIONS.

Delivered before the Royal College of Physicians of London on March 11th, 16th, and 18th, 1909,

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LECTURE I.

Delivered on March 11th.

DIMINUTION OF THE BLOOD-SUPPLY TO THE BRAIN.

Syncopal Attacks.

MR. PRESIDENT AND GENTLEMEN,—The fundamental factor in the pathology of a fainting fit is a diminution in the volume of blood passing through the brain. Sir William Gowers suggests that the resulting diminution of the intracranial pressure may be an important factor in the loss of consciousness. The causes of an attack of fainting are numerous, but we are concerned here, however, with syncopal attacks occurring apart from gross organic disease. Such may be precipitated by very different causes, sudden shock or excitement, the sight of a street accident, the sight of blood, a hot room, hunger, and so on. Many people are very prone to such attacks and this tendency to faint on slight provocation is apt to run in families.

Physiologically two important factors are concerned: first, vaso-dilatation in the splanchnic area, and secondly cardiac inhibition. It is probable that in some cases one only of these factors is primarily concerned; in others both may be involved. Some people never faint in the whole of their life; in others one isolated attack occurs; others are very prone to it on slight provocation. It is certain that many people display an instability of the vaso-motor system apart from any emotional state, although emotion may be, and often is, very potent in that direction.

S. Solis Cohen has studied this question.[1] He proposed the term vaso-motor ataxia for a "condition of instability of the mechanism of circulation present in certain persons, and characterised by abnormal readiness of disturbance with tardiness of restoration of the equilibrium of the cardio-vascular apparatus. The manifestations are most strikingly displayed by the heart and by the peripheral vessels of the extremities, but analogy indicates the occurrence of similar phenomena in the vessels of the glands and of the viscera, more especially in those of the kidney, of the gastro-intestinal tract, and of the brain. They may occur apparently spontaneously, but often there is a recognisable exciting cause. Among the influences acting as excitants are temperature, especially cold; toxic agents formed in the body or introduced from without; visceral or internal reflex excitation; and emotion." The vascular phenomena include functional heart disturbances, vaso-dilatation, and vaso-constriction. Morbid alterations in the thyroid are not uncommon. He regards dermographism as an essential feature of the condition and claims the existence of a hæmorrhagic tendency as shown by ecchymoses, petechiæ, epistaxis, hæmoptysis, hæmatemesis, hæmaturia, and retinal hæmorrhage. He enumerates a very large number of allied morbid associations and among them hysteria, urticaria, local œdema, asthma, vertigo, migraine, epilepsy, neurasthenia, neurotic dyspepsia, membranous enteritis, &c. Doubtless many would hesitate to accept Solis Cohen's scheme in its entirety, but it does gather together a series of conditions, many of which are not infrequently found in combination. All are familiar with cases presenting irregular circulatory manifestations, such as blue hands, cold extremities, chilblains, palpitation, flushings, &c., often associated with migraine, neurasthenia, dyspepsia, and so forth. Such individuals are rarely robust and in many of them, moreover, there is a marked tendency to faint on slight provocation. Solis Cohen does not include this in his large list of clinical manifestations, but vaso-motor and cardiac instability are very prominent features in many people of fainting tendencies. Their vascular mechanism is often unable to adjust itself to the slightest strain, as seen in the momentary faintness on getting up from a stooping position.

A sudden depression of the normal vaso-motor tone in the splanchnic area leads to a rapid accumulation of blood in the capacious vessels of that region; if only momentary in duration the result is merely the sudden sinking at the pit of the stomach—so common after any unexpected noise or fright. If of longer duration this preliminary sensation or aura is succeeded by a faint. The rapidity of onset of a faint depends on the nature of the cause and is proportional to the rapidity with which the vaso-motor control of the splanchnic area is lost. Fatigue or a hot room is often associated with a very gradual development of an attack, and doubtless with a slowly increasing splanchnic change. The removal of the cause will often cut short the attack before unconsciousness supervenes. A sudden shock, however, may cause almost sudden unconsciousness; and doubtless very sudden vaso-dilatation can occur. It is difficult to judge as to the degree and frequency with which the heart may be affected independent of the change in the splanchnic area. The feeble pulse is scarcely a criterion to go by in the presence of the fall in blood pressure due to the abdominal vaso-dilatation and of the small volume of blood available for the circulation. It would seem probable, however, that in some cases direct cardiac inhibition does occur. The two factors might also be brought into action simultaneously.

Attacks characterised by Cardiac and Vaso-motor Symptoms with Modification rather than Loss of Consciousness.

Attention has been drawn of late to a type of attack in which vagal and vaso-motor symptoms are prominent and in which consciousness though modified is not of necessity lost. Gowers describes a series of such cases under the title of "Vagal and Vaso-vagal Attacks."[2] The onset is commonly sudden. The salient features are cardiac and vaso-motor with some modification of consciousness in the large majority of cases. There is obvious vaso-constriction of the cutaneous vessels in the majority of cases—as evidenced by pallor of face, coldness of extremities, and tingling. Coldness of the extremities was noted in eight of Gowers's 11 cases. It was present in a marked degree in two of my own. Pricking and numb feelings of hands and feet occur, and are probably also the result of vaso-constriction. They are common in the extremities in gross arterial disease.

The feeling of suffocation and the orthopnœa noticed in several of Gowers's cases are very interesting. Their nature is obscure but it may well be that they are pulmonary in origin. The lungs contain a very capacious system of vessels and Brodie[3] has shown that cardiac changes and variations in the systemic circulation can very materially alter the volume of blood contained in the pulmonary vessels. These cases exhibit obvious changes both in the cardiac and systemic systems. Vaso-dilatation in the splanchnic area is almost beyond dispute in many of the cases, although we cannot directly inspect the splanchnic vessels. The distribution of blood is disorganised over the whole body and engorgement of the pulmonary vessels is very possible, and in cases in which it occurred would be a feasible explanation of the dyspnœa observed. Bronchial spasm may possibly participate in its causation.

Splanchnic dilatation is suggested directly by the disappearance of the blood from the cutaneous surface, factors of very common concurrence, and also by the copious diuresis following the attack in some cases. Rapid and rather persistent splanchnic vaso-dilatation is evidently a very important factor in these cases.

The variations in the symptoms and in the order of sequence depend, in my opinion, on the position of the vascular area primarily involved and on the nature of the vascular crisis. An initial splanchnic vaso-dilatation with lowered blood pressure would clearly explain some cases. A severe initial vaso-constriction, for instance, in the extremities, with rise of blood pressure, may possibly occur in some cases of so-called

[1] Vaso-motor Ataxia, American Journal of the Medical Sciences, 1894, vol. cvii., p. 130.

[2] The Borderland of Epilepsy, p. 18, et seq.

[3] Lectures on the Pulmonary Circulation, THE LANCET, March 22nd, 1902, p. 803.

vaso-motor angina, though James Mackenzie found that the blood pressure was not raised in some cases he had the opportunity of examining in an attack. Sir R. Douglas Powell, in his article on this subject in Allbutt's System of Medicine, notes the same cardio-vascular instability and the same physical and mental relationships. James Mackenzie discusses the subject under the very non-committal title of the x disease.[4] Pal has ably demonstrated the importance of vascular changes in relation to clinical symptoms in an exhaustive monograph.

It is difficult to decide in each case whether the coldness of the skin is due to active vaso-constriction, or whether the skin vessels are merely narrowed down just enough to accommodate the diminished amount of blood available for them.

In some of the cases consciousness has been modified—a dreamy mental state may be present and a feeling of impending death is not uncommon. The extreme weakness of the pulse indicates a vascular depression that must of necessity affect the brain, and we know too little of the nature of mental processes to predict what alteration should attend a diminished blood flow. Momentary loss of consciousness occurs occasionally, as in some of Gowers's cases, and when it occurs he regards it as epileptic in nature—as *petit mal*. The unconsciousness may be an early or a late symptom in the attack and in my opinion simply represents the fact that when it occurs the vascular depression has reached a point incompatible with consciousness. Cerebral vaso-constriction may account for it in some cases, cardiac inhibition with low blood pressure in others. Further, the prolonged symptoms in these cases are often of a type which, if of momentary duration, would be fairly characteristic epileptic auræ. At the same time, as has been pointed out, many of them are obviously vaso-motor or cardiac in origin and that this is recognisable is due to the fact that they are exceedingly deliberate in onset instead of sudden. If they were of slightly shorter duration and of greater intensity the epileptic relationship of these cases would be still clearer. Gowers, of course, recognises that many of these cases present distinctly epileptic phenomena, and remarks also that "velocity is an essential element of ordinary epilepsy, but this does not preclude the possibility of deliberation in attacks not far removed from epilepsy." I have seen four such cases and they are doubtless commoner than is suspected, their somewhat indeterminate character and the absence of symptoms between the attacks rendering them difficult of recognition.

THE SUDDENNESS OF SOME FAINTS.

Whilst the onset of an ordinary faint is gradual, in some cases it is rapid and may be absolutely sudden. A man very subject to ordinary faints on one occasion suffered from a sudden attack; he was sitting down and feeling perfectly well when he fell absolutely suddenly and bruised his face on the ground. Gowers also remarks that those who are prone to faint become after a time liable to do so more suddenly. In such cases there can be no question as to the nature of the attack. The vascular depression responsible for the ordinary faint must have occurred with greater rapidity. The suddenness suggests that a very transient and sudden cardiac inhibition occurred rather than that the attack was due to splanchnic vaso-dilatation. An isolated attack of unconsciousness sometimes with muscular spasm is not an unknown event in people showing no other signs of any tendency to faints or fits. Sudden cardiac inhibition supplies the most likely explanation of these attacks.

THE CONVERSION OF FAINTING FITS INTO EPILEPTIC FITS.

Gowers has recorded cases in which repeated syncopal attacks have passed into epilepsy.[5] Thus:—

> A girl when about seven years old became liable to faint on any sudden start or alarm. The faints had all the character of cardiac syncope; there were pallor, coldness, and gradual loss of consciousness. After some years such faints occurred without exciting cause, and became more sudden in onset. When she was 17 years old one of these attacks passed into a distinct epileptic fit, with deviation of the head, general clonic spasm, and micturition during the attack. Others followed.

Gowers quotes two other cases. In all three the same phenomena were presented: attacks originally brought on by external influences and typically syncopal, after a lapse of time appeared spontaneously and with a more sudden onset—in fact, becoming undoubtedly epileptic. The explanation of this change that naturally suggests itself is that the increased suddenness of the attacks is due to an increase in the rapidity with which the circulatory changes are brought about.

The symptoms of syncope are certainly due to cardio-vascular changes with alteration in the cerebral circulation, and an increase in the velocity of change would fully account for the suddenness of the unconsciousness. Gowers, however, postulates a change in the nerve elements of the brain as underlying the loss of consciousness in syncope, produced not directly by the failure of the circulation but rather by a sudden diminution in the intracranial pressure resulting from the circulatory failure. He also states that "we have to conceive it"—i.e., a change in the nerve elements—"as occurring spontaneously in epilepsy and as due to a sudden diminution in the intracranial pressure in syncope," and further that these cases in which repeated syncope seems to pass into minor epilepsy "suggest that the state of the nerve elements that underlies the loss of consciousness in syncope may, by repeated induction, acquire a tendency to spontaneous development, which constitutes minor epilepsy."

I submit that by frequent repetition the "resistance" of the nervous mechanism of the cardio-vascular apparatus is diminished, the reflex becomes easier, and the failure of the circulation occurs with greater rapidity, with the result that the loss of consciousness is proportionally more sudden. The distinction is one of the greatest importance, for the one view assumes a suddenly developing, mysterious state of the nervous system in which it becomes liable to sudden causeless failures of its activity, causeless in the sense that they are now independent of the circulatory failure admittedly producing the earlier attacks, whilst the other view affords an explanation of these attacks more in accordance with their clinical history.

So far we have considered, firstly, the ordinary fainting fit. We have seen that definite subjective sensations or auræ may attend its onset, that it is often associated with vaso-motor instability, that it may be very sudden in onset instead of gradual, and, finally, that it may change in type and become distinctly epileptic in character. In other groups of cases we have seen marked cardiac and vascular instability with the development of a series of symptoms depending directly on these cardiac and vaso-motor changes. Many of these symptoms are identical with epileptic auræ though more prolonged. We have seen that consciousness may be preserved though modified, that it may almost vanish, and, finally, that unconsciousness may develop. In all these cases the pathological variations in the circulation are such as to fully account for the unconsciousness and for the epileptic character of some of them.

The phenomena attending a sudden transient and demonstrable arrest of the heart should afford valuable evidence as regards the influence of sudden cerebral anæmia in the production of symptoms. These phenomena can be studied in cases of heart block.

CESSATION OF THE CEREBRAL CIRCULATION.—SUDDEN AND TRANSIENT.

(*a*) *Heart Block.*

Alfred Webster[6] records a case accompanied by a series of 60 beautiful sphygmographic tracings which establish beyond question the fact that arrest of the heart preceded the epileptiform attacks. Another most instructive case was recorded by Finny.[7] The patient was a woman, aged 42 years, who suffered from bradycardia and arryhthmia of the heart. Without entering into any details as to the cardiac condition it may be stated that the pulse rate was, as a rule, between 21 and 28 per minute. At varying intervals, however, the rate changed and a state of pulselessness lasting from five to 15 seconds supervened. During these latter periods certain fits, or, as she described them, "weak turns," developed. Frequent observations determined the fact that the fits were sure to occur when pauses of eight to 10 or 15 seconds were observed, and that they occurred towards the end of the period of cardiac asystole. Finny gives the following description of the fits:—

> A "weak turn" was ushered in and preceded by a delay in the heart's beat and radial pulse. Thus, when a pause lasted seven to ten

[4] Diseases of the Heart, 1908, p. 56.
[5] The Borderland of Epilepsy, 1907, pp. 8 and 9.
[6] Cardiac Arrhythmia in Relation to Cerebral Anæmia and Epileptiform Crises, Glasgow Hospital Reports, 1901, vol. iii., p. 413.
[7] Bradycardia with Arrhythmia and Epileptiform Seizures, Brit. Med. Jour., 1906, vol. i., p. 1112.

seconds the patient's face became pale, the eyes had a very pained and frightened look, and some little restlessness of the head and hands ensued; and it ended by a slight flushing of the cheeks, some tears in the eyes, and the patient would give a slight sigh, or little hem or cough, and the weakness would be over. The "slight fit" came on with a soreness or sharp feeling in the stomach and left side of the thorax, which would then extend up the right side of the chest into the head and eyes. The pallor of the face would be more marked, the eyes would turn up to the right side, and the hands would fidget and the fingers catch at the sheets. The patient always came out of this fit in a more frightened and slightly dazed manner, and the eyes had a strained and somewhat blind look for some minutes. The "severe fit" was more distinctly epileptic, with sudden onset, the patient falling back if sitting up in bed, great pallor, convulsive movements of hands and arms, and also slightly so of feet, unconsciousness for five or ten seconds, and then great flushing of the face, and the patient came out of it very confused, and she was dull and nervous the whole day following. She never bit her tongue or passed urine in them.

Many other cases could be quoted,[8] but the above are enough to justify the statement that cessation of the heart for a limited number of seconds is associated with transient loss of consciousness which may be absolutely indistinguishable from *petit mal* (indeed, Finny regarded and treated his patient for such on first seeing the case) and that with more prolonged cardiac arrest definite convulsive seizures are brought about, which may be practically indistinguishable from those of major epilepsy. In such cases of heart block, moreover, the cardiac arrest is the result of heart disease. That the unconsciousness and convulsions in these cases are directly dependent upon a primary failure of the cardiac contraction, and therefore of the cerebral circulation, is obvious. If evidence is forthcoming that in idiopathic epilepsy a comparable failure of the cerebral circulation occurs, the evidence will be strong that, as in the cases above recorded, the relation between the circulatory failure and the fits will be one of cause and effect.

(*b*) *Epilepsy.—Evidence of Cardiac Arrest in Idiopathic Epilepsy.*

Moxon[9] records three cases in which an epileptiform attack followed an arrest of the heart's action. In only one case was the patient an epileptic. In two cases the pulse was under examination and in the epileptic the heart was being auscultated. Moxon's attention was attracted by the sudden disappearance of the pulse and the cessation of the heart sounds. The fit then occurred. At the conclusion of his lecture Dr. Southey informed Moxon that in the only instance in which he had his finger on the pulse at the beginning of an epileptic convulsion he observed the pulse to disappear during the onset of the attack. Moxon attributed the cessation of the heart to the action of the pneumogastric nerve, but recognised the fact that the cause of this pneumogastric impulse was yet to seek. Hilton Fagge[10] records a similar case. I have recorded a similar case which came under my own observation,[11] as well as another which was communicated to me. A peculiar significance in one of these cases lay in the fact that complete absence of the pulse and the patient's extreme pallor led to the belief that it was a fatal attack of syncope, and it was only when the spasms occurred that the nature of the case became apparent. It is not contended that complete cardiac arrest occurs in every epileptic convulsion, for it is stated that the pulse may persist throughout a fit, but an extreme feebleness, short of absolute cessation, might be sufficient to initiate a fit. The following case, for example, which occurred under my own observation, might well be described as a fainting fit but for collateral evidence.

The patient was a youth aged 20 years. He came to hospital having had a "fit" on the previous day. He had had only one fit previously, 12 months ago. His facies was typically epileptic. On one attendance he turned very pale and rolled back in the chair unconscious. His pulse was found to be extremely feeble. There were no spasms whatever and the unconsciousness lasted for about a minute, when he gradually regained his senses. This attack could only be called a faint. In two or three minutes, however, he again turned pale and fell back, but with this difference, that there were several clonic spasms of his face and one spasm in his arms. His pulse was under examination when he rolled back, and it became so feeble during the period of unconsciousness as only to be detected with considerable difficulty. He was stupid for a few minutes and then recovered. After the attack was over his pulse was still very feeble, but on examination with the sphygmomanometer the blood pressure was found to be 120 millimetres of mercury.

Nobody seeing the boy and the second attack could doubt its epileptic nature, and at the same time the alteration in the pulse in both attacks left little room for doubt but that it was the precipitating factor both of the "faint" and of the "fit."

THE CAUSATION OF CARDIAC INHIBITION IN EPILEPSY.

Moxon attributed the cardiac arrest in his cases to a vagus inhibition of the heart. Dr. F. H. Clarke,[12] in a paper on Epileptoid Attacks in Tachycardia and Bradycardia, quotes Langendorff's observations on the results of stimulation of the peripheral end of the vagus in rabbits narcotised with chloral: "Electrical stimulation of the peripheral end of the vagus causes a prolonged stoppage of the heart, with a very remarkable phenomenon, never hitherto observed, so far as we know—a complete epileptic convulsion occurs 10 or 15 seconds after the diastolic pause. ..... Precisely similar convulsions are produced by compression of the thoracic aorta at a point nearer the heart than where the great vessels are given off to the head." Francis Hare[13] also attributes the epileptic fit to a cerebral anæmia, the result of vagus inhibition of the heart, and assumes further that the inhibition is a reflex act secondary to a widespread vaso-constriction.

There is no doubt that *in epilepsy the vaso-motor system is unstable.* I have been repeatedly struck by the pulse irregularities in epileptic patients. In some the pulse-rate is, as a rule, very considerably increased, and yet on other less frequent occasions is abnormally slow. Not only that, but the pulse frequently shows wide variations in the course of a few minutes. In two patients I have seen time after time the pulse so feeble and small that they might, on the evidence of the pulse alone, have been in a state of severe collapse. The volume and pressure also vary very considerably. The rapid rise in blood pressure postulated by Hare as preceding vagus inhibition in the epileptic fit might be very transient, and, unless the blood pressure were under observation at the moment preceding the onset of the fit, would be most difficult of demonstration and even of observation. The sensation of chilliness which sometimes precedes a fit is presumably to be attributed to cutaneous vaso-constriction. If, however, constriction should occur in other regions—the splanchnic area, for instance, or in a large muscular area—the result would be the same—viz., either a compensating vaso-dilatation elsewhere or of necessity a rise in the general blood pressure. If, instead of the heart responding to this rise in blood pressure by the customary increased force of beat, its vagus mechanism were too sensitive, or its protecting depressor nerve mechanism at fault, the result might be cardiac inhibition with resulting cessation of the heart, or a marked enfeeblement short of actual cessation, followed by unconsciousness, and, if of more than the most transient duration, would result in the production of convulsions—i.e., an epileptic fit. It is unfortunate that so few observations of these vascular changes in epilepsy are on record. Unless the heart or pulse happens to be under examination at the moment of onset of a fit the opportunity does not occur, the failure of the circulation is very transient and the muscular spasms render any examination of the heart and pulse a matter of great difficulty.

It is maintained in these lectures that the fundamental factor underlying both the ordinary faint and the epileptic fit is cerebral anæmia. It follows further that the difference between the two is one of degree rather than of kind. We have some clinical evidence of this in the suddenness of some faints, and in the conversion of faints into fits. The difference I hold to be due to the difference in the rate of development of the cerebral anæmia. In the ordinary faint the cerebral circulation slowly diminishes *pari passu* with the falling blood pressure. In the fit there is a sudden cessation of the circulation. Similarly the circulation slowly improves in the faint; in the fit it probably returns with greater rapidity.

The fainting proclivity is commonly associated with other evidences of cardiac and vaso-motor instability and an exciting cause is usually present. In epilepsy the ordinary evidences of vaso-motor instability are not so obvious and exciting causes are commonly absent. It must suffice for the present to bring forward the above evidence of cardiac inhibition, however scanty, and to examine to what extent it will explain the various manifestations of epilepsy.

[8] See paper by the author, The Pathology of Epilepsy, Proceedings of the Royal Society of Medicine, 1908.

[9] On the Influence of the Circulation on the Nervous System, THE LANCET, April 23rd, 1881, p. 648.

[10] Fagge and Pye-Smith: Text-book of Medicine, second edition, 1888, p. 793.

[11] Alfred E. Russell: Cessation of the Pulse during the Onset of Epileptic Fits, with Remarks on the Mechanism of Fits, THE LANCET, July 21st, 1906, p. 152.

[12] F. H. Clarke: Epileptoid Attacks in Tachycardia and Bradycardia, Brit. Med. Jour., 1907, vol. ii., p. 308. Quotes Langendorff: Epileptische Krämpfe bei peripherer Vagus Reizung, Centralblatt für Medicinische Wissenschaften, 1878, vol. xvi., p. 65.

[13] Hare: The Food Factor in Disease, 1906, vol. i., pp. 331, 332.

A Lecture
ON
MODERN METHODS OF TREATMENT OF SOME COMMON SKIN DISEASES.

Delivered at the Medical Graduates' College and Polyclinic, Chenies-street, London, on Feb. 24th, 1909,

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GENTLEMEN,—During the last few years the treatment of skin diseases has undoubtedly made rapid strides, thanks partly to an increased knowledge of their pathology and such discoveries as the spirochæta of syphilis by Schaudinn and the leprosy bacillus by Hansen.

The discovery of radium has given us a new means of curing lupus vulgaris and lupus erythematosus, nævi, rodent ulcer, and other forms of malignant disease. Finsen's light treatment has enabled us to secure wonderful results in lupus vulgaris, and Sabouraud's method of ringworm treatment has placed in our hands a means of curing a most tedious and unsatisfactory disease with a minimum of trouble.

The use of liquid air and liquid carbonic-acid gas, Bier's local hyperæmia, electrolysis, and ionisation have all given us new weapons to fight diseases of the skin, to say nothing of the excellent results obtained by vaccine treatment and by the use of x rays. X rays have apparently a selective action for hair papillæ, cancerous cells, and pathological tissues in general. Thus a portion of scalp which has been exposed to a definite dose of x rays becomes entirely bald at the end of three or four weeks, and then new hair grows again over the bald area after another period of 12 weeks. In the case of ringworm of the scalp, the diseased hairs become loose and fall out, and are succeeded by a fresh crop of hair entirely free from disease. The patient is thus entirely cured of his ringworm by a single exposure of the diseased patches and can return to school without danger of infecting other children. The only essential is that the amount of the x ray dose shall be accurately measured, and by this I do not mean the amount of current passing into the tube, but the amount of x rays reaching the scalp. This is effectually done by means of greenish pastilles of platinocyanide of barium interposed between the tube and the scalp which change to a brownish tint when the exact dose has been given. Children are not frightened by this method of treatment, and for children over four years of age there is no question that better and quicker results are obtained in this way than in any other, always assuming that the scalp has not been previously irritated by treatment. It must, however, be remembered that the rays do not kill the fungus, and the diseased hairs may, as they fall out, infect other healthy portions of the scalp. I therefore always make a practice of applying a weak sulphur and carbolic ointment over the whole scalp every morning in order to avoid any such possible infection.[1]

Cases which have already been irritated by treatment or for other reasons are unsuitable for the application of x rays are best treated by a croton oil ointment applied daily with frequent bathing with hot water, or by either of the following:—1. Chrysarobin, gr. xxv.; acidi salicylici, gr. x.; ichthyol, gr. xx.; and adipis benz., ʒi. 2. Olei rusci, ʒi.; saponis mollis, ʒiss.; and spt. lavand., ʒi. 3. Naphthol, gr. ii.; sulph. precip., gr. xlv.; balsam Peru, gr. v.; and lanolin, ʒi.

A method which is claimed to cure ringworm in from two to three months is to clear the patches thoroughly by epilation and washing and then to cleanse them with the following solution:—Boric acid, gr. v.; chloroform, m. xx.; and spt. vini rect., ʒi. Then rub in acetic acid in crystals, gr. iv.; and solution of hydrarg. perchlor. (1 in 1000), ʒi. Finally cover with acetic acid, gr. iv., unguenti cinerei, ʒi. When as a result of treatment there remain but a few scattered stumps or black dots I destroy them either by electrolysis or needling with croton oil coloured with methylene blue. The dye enables one to see which stumps have been treated and their removal two days afterwards with forceps is an easy matter.

Tinea circinata, or ringworm of the non-hairy skin, is easy to cure—quite a different matter from ringworm of the scalp. An ointment of ammoniated mercury, or sulphur, ʒss.; acidi salicylici, gr. x.; naphthol, gr. iii.; and vaselin, ʒi., rubbed in twice a day will effect a speedy cure.

While speaking of diseases of hairy regions I may perhaps refer to a common cause of mental worry in sensitive women—hypertrichosis, or superfluous hair. We all know what a depressing effect a slight moustache or beard produces in some women, how often their thoughts recur to it, and how sensitive it makes them in the presence of strangers. When the hairs are few in number but large and pigmented, I am sure that no method is equal to electrolysis. When there is merely a soft down I recommend the application of a barium sulphide paste such as the following:—Barium sulphide, gr. xii.; powdered soap, gr. xv.; starch powder, gr. xv.; and benzaldehyde to one drachm. This if applied from time to time when the hairs grow up again from the papillæ is quite sufficient to keep the growth under. In order to avoid the possibility of a resulting dermatitis the paste should not be applied for more than five minutes and then washed off.

The use of x rays, although of course they make the hair fall out, has not until recently proved a success in hypertrichosis, but quite lately Noiré of Paris has devised a method by which only those rays are allowed to act upon the skin which affect the hair papillæ. This he accomplishes by introducing between the tube and the skin a plate of aluminium four-tenths of a millimetre in thickness. The exposures are made at intervals of a fortnight, and at the end of the fortnight after the first exposure the hairs ar, found to be clubbed, thin, and depigmented at the baser but they have not fallen out. A fresh application is mader and in from eight to ten days afterwards a certain number of hairs begin to fall out. Four or five more applications are made and by this time all the hairs will have fallen out. Two more exposures are made at intervals of a month, and after two months a slight regrowth commonly occurs, representing about one-tenth of the fallen hairs. Two or three new applications will cause these to disappear and this time finally. The method is especially suitable to those extensive beards involving both cheeks and the chin which are a source of the greatest mental discomfort to the patient, are a distressing deformity, and cannot be satisfactorily treated by any other method.

Of all the skin diseases which the practitioner has to treat none perhaps is more common or more unsatisfactory than eczema. Even the acute cases are not easy to cure, and how many cases are there of five, ten, twenty, or more years' standing going the rounds of dermatologists, general physicians, and diet specialists until the patients and the physicians are heartily tired of one another? To fall back on a theory of gouty diathesis or uterine displacement is all very well, but neither nut diets, purin-free diets, nor unlimited pessaries of peculiar construction can effect a cure in some of these patients. Many practitioners have a notion that one or two prescriptions will cure any case of eczema, and they forget that the effect of their applications depends not only on the quality of their medicaments but on the irritability of the skin, which again depends partly on individual characteristics of the patient and partly on the form and the stage of the eczematous lesions. The individual irritability must be determined for each separate case with regard to the extreme differences observed in different patients, and one general rule must be observed, which is to begin always with indifferent applications, if I may so call them. In acute eczema there is the greatest irritability of the skin, and the rule which I always observe is as follows. So long as the affection is in the stage of discrete disseminated foci, that is, while there is a papular or vesicular eczema, use the protective, drying applications. Macerating applications which produce a softening effect, such as the animal and vegetable fats and ointments, inasmuch as they can have no direct effect on the pathological process, are not only useless, but they tend to increase the inflammatory tendency of an

[1] Cf. Sabouraud's Method of Ringworm Treatment by X Rays, Bunch: British Journal of Dermatology, July, 1904. Ibid., THE LANCET, Feb. 18th, 1905, p. 414. Ibid., Archives of the Röntgen Ray, June, 1905.

already very irritable skin. The treatment of papular and vesicular eczemas, whether they are the expression of a typical acute eczema or a manifestation of part of a chronic eczema, depends on their protection from external irritation, and the better this is accomplished the quicker the cure. In acute papular eczemas I therefore always use powders, pastes, or lead lotion applications; in vesicular eczema, especially when the vesicles are tending to become confluent, the powders are definitely indicated, and of course external irritations such as the effect of sun, wind, excessive heat, the friction of clothing, the use of water, and especially soap, are to be avoided. If these measures do not serve to cure the itching, special applications, to which I shall refer later, are to be employed. No more must be done, and I am convinced that all so-called radical measures, which aim at "killing off" the eczema and "driving it out of the system," simply cause an increase of the inflammatory process, and the eczema, which as a papular or vesicular eczema could have been cured without difficulty with a little patience, is converted into a moist or weeping eczema. If, however, the acute eczema has already reached this stage, crusts have formed, the linen becomes soaked with the discharge, pus forms under the crusts and decomposition of the fluid discharge takes place and a septic sore results, the discharging lesions must be isolated and cleansed as far as possible but the application of fatty ointments has, as a rule, only a deleterious effect. The use of powders alone increases the formation of crusts, while pastes either do not adhere to the moist surface or are washed away by the discharge In these circumstances boric acid fomentations applied cold prove of the greatest service, if care is taken that their macerating effect shall be confined to the discharging lesions. These are to be applied only until the discharge diminishes and then either powders or Lassar's paste containing five minims of thiol to the ounce. This paste has often a wonderful effect in causing the eczematous lesions to heal, and I need not remind you that it contains 2 per cent. salicylic acid and 25 per cent. each of zinc oxide and starch to 50 per cent. of vaseline. Should it prove at all irritating it is wise to substitute from 2 to 5 per cent. of boric acid for the salicylic acid and, if the patient prefers, it can be coloured artificially to make it skin colour. It has a drying action on the skin and forms an excellent desiccating covering, especially if applied with a brush, and then dusted thickly over with a calamine and boric powder. It can also be made up with lard instead of vaseline when a greasy preparation is required, or a similar preparation is a mixture of 60 per cent. zinc oxide to 40 per cent. olive oil.

Coming now to *chronic* eczema, with considerable thickening of the epidermis, we have to consider methods of treatment more energetic and more stimulating. The chronic infiltration which extends into the deeper layers of the epidermis, the dilatation and alteration of the lymphatics, and the chronic œdema of the skin are indications for the application of medicaments which will increase the flow of lymph and, as far as possible, disinfect the diseased area. Massage of the thickened skin is often of service, followed by the application of salicylic acid plasters or ointments, or tar preparations such as oil of cade or liquor carbonis detergens. For old chronic thickened eczema plaques I use chrysarobin or pyrogallol in from 1 to 10 per cent. ointments made up with vaseline and painted on, followed by the plentiful application of zinc and starch powder. When the patches are greatly thickened they may be softened by the painting on of 50 per cent. liquor potassæ, then applying 50 per cent. silver nitrate solution and covering with sterile gauze for one or two weeks until healed. The scab is then removed by treating with boric ointment. Pastes containing lenigallol prove of service in many cases, and they can be combined with sulphur or oil of cade. A paste containing the latter is as follows:—Lenigallol, gr. xl.; oil of cade, m. xx.; zinci oxidi, ℥ iss.; kaolin, ℥ iss.; and vaseline, ad ℥ i.

The especially rebellious eczemas of the scrotum, anus, and vulva are best treated by the Paquelin cautery under general or local anæsthesia and the subsequent application of 5 per cent. solution of borax compresses. Light treatment has given good results in some cases, especially in localised eczematous plaques, and in certain cases applications of radium. But it is important in both cases to give only minimal doses and to avoid any possible over-excitation of the inflamed skin. The irritability of the skin can also be diminished by applications of blue light by means of the blue quartz lamp or the uviol lamp. High-frequency currents have also been recommended, but as to their beneficial effect I am somewhat sceptical.

One of the most troublesome symptoms of eczema is unquestionably the itching, and, although this diminishes as the inflammatory hyperæmia lessens, we often need some more rapid means of checking it. Cold-water compresses are often of service, and any harmful effects of the water can be minimised by subsequent applications of drying powders, but menthol suits some cases even better. 2 to 10 per cent. solutions in alcohol or oil are the best means of applying it, but the resulting sensation of cold is sometimes felt to be worse than the itching. Then 1 to 2 per cent. solutions of salicylic acid in alcohol may be tried, or carbolic glycerine made up as follows: Carbolic acid, gr. iv.; glycerine, m. xl.; and spt. vin. rect. ad ℥ i. This is to be applied on cotton wool or a sponge. The possible irritating effect of the carbolic acid must be watched, but if it can be borne the effect on the itching is sometimes wonderful. Cocaine and eucaine solutions I have also found to be of use in some cases.

So far I have dealt only with the external treatment of eczema, and I have intentionally laid stress on the external as opposed to the internal treatment of the disease. Not that I do not attach importance to the internal treatment, but because I believe that it alone cannot cure eczema and is only of value in conjunction with direct applications to the diseased area. Obvious dyspepsia, rheumatism, gout, or anæmia must be treated and the question of diet must be gone into carefully. All alcohol is undoubtedly bad for eczema, and so is tea in dyspeptic patients. Highly seasoned dishes must be forbidden, and an acute attack of eczema in a patient who habitually lives too well is an indication for saline aperients. In those cases where the coagulation time of the blood is delayed calcium salts should be ordered and food containing vegetable acids such as tomatoes and rhubarb forbidden. Arsenic has, of course, a considerable reputation, but it should only be given in chronic cases and then for a period of a month in increasing doses up to 30 minims a day and then diminished during the succeeding fortnight, at the end of which it should be stopped for a time.

I have dealt at some length, gentlemen, with eczema because it furnishes such a high percentage of the skin cases which we are called upon to treat. Another very common skin disease, and one very resistant to treatment, is *psoriasis*. The two internal remedies which are of value in this disease are salicin and arsenic. In acute attacks Radcliffe Crocker recommends 15 to 20 grain doses of salicin three times a day, and this is often sufficient to effect great improvement even without external treatment. In chronic cases five-minim doses of liquor arsenicalis should be given, increasing gradually to 15 minims three times a day during the first three weeks and then slowly diminished. But arsenic is no absolute specific for psoriasis, as is shown by the occurrence of fresh patches while the drug is being administered, but it has a beneficial effect on those lesions which are already present when it is first prescribed. Whether it acts upon the metabolism or upon the nervous system is uncertain; in my opinion it acts rather upon the smaller blood-vessels, causing them to dilate and bringing about a hyperæmia of the psoriasis lesions. The drug can be given very conveniently in the form of the Asiatic pills, containing arsenious acid and black pepper, beginning with three a day, increasing the number by degrees to 10 or 12, and then gradually diminishing the dose again. Should symptoms of intolerance show themselves, such as loss of appetite, digestive disturbances, sleeplessness, dryness of the throat, or arsenical dermatitis, the drug must be stopped, at any rate for a time. Subcutaneous injections of arsenious acid, cacodylate of sodium, atoxyl, soamin, or arsacetin have all been recommended by various authorities, but personally I prefer the administration of arsenic by the mouth. Thyroid extract, powdered thyroid, and its derivatives iodothyrin and thyroidin have not been very successful in my hands and I seldom order them.

As regards local applications, the first and most important indication is to remove the scales. This is best done by long-continued soaking in a hot bath, for an hour or more at a time if the patient will stand it. When the scales have been softened in this way they can be removed by means of soft

soap or any good superfatted soap. If the patient insists on a medicated soap order the first you think of, for I do not believe that the small amount of the drug contained is of any value, considering how short a time it remains on the skin and how much it is diluted by the large quantity of fluid with which it is brought in contact. After removing the diseased epithelium in this way some application must be rubbed thoroughly into the patches. In the case of acute psoriasis very mild remedies should be ordered, such as 2 to 4 per cent. salicylic ointment or a 5 per cent. naphthol ointment. These are usually sufficient to cause involution of the disease and effect a cure. But in the chronic forms stronger applications are necessary. Of these the best is a tar preparation, either the old and dirty unguentum picis liquidæ, or oleum cadini, or oleum fagi. These are wood-tar preparations but it is now rather the fashion to prescribe coal-tar preparations, such as pix carbonis. A drachm of liquor picis carbonis to the ounce of lanolin can be rubbed in or the same amount of oil of cade to the ounce of olive oil brushed in and then boric powder freely dusted on. The old-fashioned method of painting pure tar on to the spots and then leaving the patient in a hot bath for half an hour and washing the tar off with soft soap is excellent, inasmuch as it avoids the unpleasant after-smell of tar, which some patients complain of when they have to go to their business.

The second drug largely used is chrysarobin, but it has disadvantages. It does not always cure the disease, it does not prevent recurrence, sometimes it sets up an acute dermatitis and may provoke a general outbreak of psoriasis over the whole body. It stains the linen indelibly, it turns the hair yellow and the skin a purple brown, and may induce toxic symptoms of fever, pain, discomfort, and sleeplessness. It is usually rubbed in as an ointment, but if I use it I usually prescribe a 10 per cent. solution in traumaticin, which is gutta-percha dissolved in chloroform. This is painted on twice a day with a brush for ten days, during which the patient does not take a bath; at the end of this period he washes the application off. This is a cleanly way of applying chrysarobin and the result is often good. Chrysarobin plasters are also a good method of using the drug.

Pyrogallol is also another substance which in 10 per cent. ointments has many advocates, but if used on large areas it easily induces toxic symptoms, of which collapse and hæmoglobinuria are the most common. For the face and scalp, ointments containing ammoniated mercury, carbolic acid, and naphthol are the best; they are cleanly and easily applied.

Small doses of x rays, violet light, radium, and high-frequency currents sometimes give good results, but the great secret of the treatment of psoriasis is patience and the seeing that your instructions are carried out without any slackness on the patient's part until every patch of psoriasis has been got rid of.

I almost hesitate to include in my paper a skin disease which is very common in hospital practice but which ought never to occur in private practice. I refer to scabies, or common itch. No doubt many practitioners have never seen a case in private practice, but while man is what he is and the possibilities of infection are what they are we sometimes see cases even among the apparently most respectable members of society. And to overlook or wrongly diagnose a case of scabies may be disastrous. When I see a general eruption, scratched or pustular, and the patient complains of itching I always look for burrows, whoever the patient. If I can demonstrate an acarus there can be no question of the diagnosis, and it is not any business of mine to inquire from whom the acarus came. It is a fact, however, that one variety of mange in the dog is due to an acarus which may infect man, and persons who have much to do with dogs may become infected in this way. The face is always affected in these cases, whereas ordinary scabies does not cause any lesions of the face in adults.

The treatment of scabies aims essentially at opening up the burrows, destroying the acari, and allaying the itching. The best way is to make the patient soak in a hot bath for a quarter of an hour, then scrub himself thoroughly with soft soap, using a nail brush for the hands and feet. After washing off the soap the sulphur ointment of the pharmacopœia is rubbed all over the skin, except the face, and left on for three days. The patient then has a starch bath to allay the irritation and applies boric ointment to any patches of dermatitis which may be present. It is important not to use any sulphur after the third day, otherwise an unpleasant degree of eczema or artificial dermatitis may be set up which will also cause great itching. In place of sulphur, β-naphthol in 20 per cent. ointment may be rubbed in after the bath and again on the three following days. It has the advantage that it is odourless and cleaner than sulphur, but it is not so efficacious. The same may be said of balsam of Peru, and I myself prefer to order sulphur. In any case, the clothes must be thoroughly disinfected and the patient kept under observation for ten days to make sure that all ova have been destroyed.

A PRELIMINARY NOTE ON THE CLINICAL VALUE OF THE ANTITRYPTIC INDEX OF THE BLOOD IN TUBERCULOSIS.

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THE significance of the antitryptic power of the serum in pathological conditions has recently received some attention, but the non-employment of accurate quantitative methods has been responsible for ambiguous and completely disappointing results. The method which has been followed for the most part is that devised by Müller and Jochmann. The tryptic pus obtained from empyemata and abscesses was sown in platinum loopfuls on a Löffler plate. To each loopful of pus a varying number of loopfuls of serum was added and the antitryptic efficacy of the serum judged by the relative number of drops required to inhibit a drop of the tryptic-acting pus from digesting the underlying plate surface sufficiently to cause a visible depression. It is obvious that such a method could hardly be expected to give any but the roughest results, and that the comparison between one drop of trypsin-containing substance mixed with a certain number of times its volume of colloidal fluid and another with a different multiple of colloid could give no information as to the true inhibitory powers of the serum albumin. The criticisms of Klienberger and Schulz as to the difficulties in obtaining constant Löffler plates and of mixing and distributing uniformly the several droplets are amply justified. Wiens succeeded in an apparent increase in the antiferment power of the blood in cases of tuberculosis, and in agreement with Bittorf an alteration in cases of pneumonia, but his results have been traversed by Klienberger and Scholz, who failed to get any constant results by use of this method. Equally opposed to all our knowledge of the phases of enzyme activity are those adopted by Bergmann and Meyer who looked for the end-point reaction in a casein solution digested by a trypsin solution to which varying amounts of serum were added by means of Gross's method and expressed their results in — or + form. The inhibitory action of products of digestion and the decrease of available substrate tend to cause the determination of the end-points in such digestions to become indefinite. The only methods open to the investigator are such as allow him by continuous observations of the progress of the reaction to obtain accurate information as to the velocity of reaction when equal ferment strengths are allowed to act on a substrate to which equal amounts of different sera have been added. The chemical method of determining the increase of incoagulable nitrogen in samples withdrawn at intervals from the digest has to be rejected owing to the circumstances under which clinical observations are conducted. The amount of serum obtainable from a patient is too small and the method is too laborious to permit of such observations ever becoming a matter of clinical routine. The method of electrical conductivity as introduced by Victor Henri into the study of enzymes and which has been made familiar by the work of Bayliss on tryptic action offers itself as an extremely convenient one for this purpose. During a tryptic digestion the rise of electrical conductivity of the digest offers itself as a simple and accurate method of following the course of the reaction, and with extremely small quantities of serum consistent and accurate measurements of

inhibitory powers can be obtained. This method has been adopted in the following experiments and the encouraging results that it has yielded have induced me to publish this preliminary account of observations on tuberculosis in the hope that it may attract other workers to contribute the large number of results that will be necessary before what promises to be a new chapter in pathology can be established on a firm basis. The method used for estimating the electrical conductivity of the solutions was that of Kolrausch with the rapidly alternating current and telephone.

The vessels used were after the pattern of those of Henri, having a capacity of 15 cubic centimetres. To permit of ready cleansing it is important that they should be wide-mouthed and stoppered to prevent evaporation. The resistance capacity of the vessels was redetermined at intervals with $\frac{n}{10}$ KCl and the electrodes replatinised from time to time. The digestion took place in a thermostat kept at 34° C. The substrate used was 2·5 per cent. solution of sodium caseinogenate to which ammonia was added in the proportion of 1 cubic centimetre of 0·880 ammonia to a litre of the casein solution. Although not more than 0·2 cubic centimetre of serum is required for a determination, it has been the practice in these experiments to use much larger quantities in order, as far as possible, to eliminate errors due to the measurement of very small quantities. It is possible to obtain without difficulty one cubic centimetre of blood from a puncture in the lobe of the ear with the point of a cataract knife, but the majority of the cases investigated have been bled by puncture of the median basilic vein with a small sterilised syringe. The prejudice that exists against this procedure is quite unwarranted. I have personally experienced it about 200 times without the smallest inconvenience or appearance of scarring or thickening over the median basilic. It is perfectly painless when properly done with a sharp needle, and patients generally prefer it to withdrawing blood by ordinary puncture of the finger as being more rapid and less uncomfortable. If the skin is first sterilised and the patient requested to look in another direction the whole operation is conducted without any trouble; the application of dressing afterwards is unnecessary and alarming. It is only necessary to elevate the arm for a few seconds after withdrawing the syringe to prevent any oozing of blood.

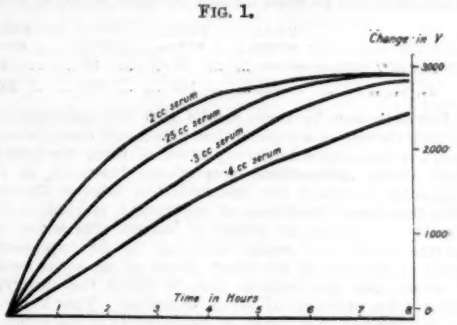
The serum should be separated as soon as a firm clot has formed and kept in an ice chest. There is some evidence that the antitryptic power of serum left in contact with the corpuscles diminishes slowly, probably from the setting free of their intracellular enzymes by the disintegrating leucocytes. I have been unable to find any evidence of diminution of antitryptic activity in aseptic serum kept in the cold for many days. As a convenient unit of conductivity the reciprocal megohm or gemmho, as introduced by Waller, may be used. Asepticity is secured by the presence of formalin, 5 cubic centimetres of 5 per cent. formol being added to every litre of the stock casein solution. The formalin itself has a slight inhibitory action on tryptic activity.

In an actual experiment the following technique was observed. The conductivity vessels each received 10 cubic centimetres of casein solution and to this the serum was added. The serum and substrate were now allowed to reach the temperature of the thermostat and an appropriate quantity of trypsin solution added. The trypsin degenerates with such rapidity in a warmed solution that it was deemed expedient to always add the measured pipetteful of trypsin in the cold state, as in the measuring of the ferment into a succession of vessels sufficient time may elapse for an appreciable degeneration of the ferment in the heated state to take place. The vessels are now allowed to stand for ten minutes before the first reading of the electro-conductivity is made, dummy experiments having shown that an amount of fluid at room temperature equal to that of the trypsin used when added to the casein-charged vessel took 7·5 minutes to reach the mean temperature of the thermostat. The readings were afterwards made at regular intervals of 15 minutes. Duplicate vessels were used, so that in every case the mean of two readings was obtained. A point to which importance is attached is the agitation of each vessel while the trypsin solution is being run in from the pipette, otherwise discordant results are obtained which can be accounted for by the possible combination of enzyme and casein molecule before the enzyme has come into contact with the serum as a whole.

The use of trypsin in preference to the proteolytic enzyme of pus cells or leucocytes was only determined upon after a series of experiments comparing the two enzymes which revealed no perceptible difference in the inhibitory action of serum toward the two enzymes. The possibility of a progressive loss of inhibitory power of the serum throughout the course of the reaction is one that has to be considered. Bayliss showed that when sufficient serum was added to a trypsin solution to completely prevent its attacking the caseinogen for at least two days, the caseinogen is slowly attacked and the curve may become a straight line with an angle upwards. He considers this a proof that the antitryptic power of the serum slowly degenerates, as had been previously shown to be the case by Dastre for the antitrypsin of intestinal worms. Using the small quantities of serum that are adopted in these experiments I have never found evidence of such degeneration, but with large amounts of serum which has been first mixed with trypsin and then added to the caseinogen solution curves have occasionally occurred resembling those described by Bayliss. As such curves are not obtained when the serum is first diluted by mixing with the casein, and the trypsin is then added to the casein and serum mixture and the whole shaken, it would appear that we have to deal with a condition of absorption of the trypsin by the serum, which is then slowly liberated, and that this phenomenon does not tend to occur in cases in which the serum is already diluted. The question does not, at any rate, arise in connexion with the small quantities of serum used.

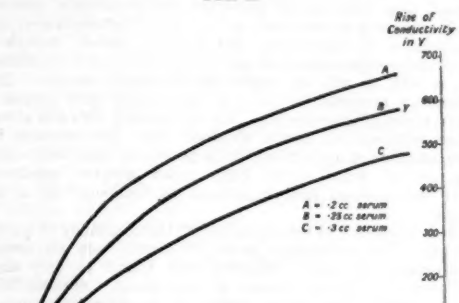
The curves obtained, as shown in Fig. 1, representing the

FIG. 1.



Curve showing rise of conductivity in the casein-trypsin digest after the addition of varying amounts of serum. The vertical figures show the change in gemmhos (or reciprocal megohms) γ.

FIG. 2.



Curve showing direct arithmetical relation of inhibitory power of different amounts of serum in the early stage of the reaction.

quantity of casein converted and time, fall off continuously throughout the experiment from the logarithmic curve, the velocity constant decreasing in value as the end-point is approached. The form of the curve which tends to become

asymptotic to the base line indicates a tendency towards an equilibrium point with the reaction incomplete. In the initial stages the velocity of reaction appears to be in linear proportion to the amount of enzyme, as pointed out by Bayliss, but this relationship is more and more departed from as the reaction proceeds, so that a stage is finally reached when the velocity of reaction is almost the same for different amounts of enzyme. This latter fact demonstrates the futility of results based on observations of end-point. This tendency towards an equality of rate is due to the diminution of the available amount of substrate but before this can come into play the velocity of reaction has already suffered progressive retardation from the inhibitory action of the accumulating products of digestion. In view of the difficulty of finding a suitable equation for the course of the whole reaction it becomes of importance to prolong the initial stage when the velocities of reaction show a simple linear proportion to the concentration of enzyme as long as possible. This can be done in two fashions—by using the minimal quantity of enzyme possible and using such an amount of substrate that the action of the products of activity does not come into play immediately. In casein solutions such as were used in these experiments it was found that up to a rise of about 550 gemmhos a strictly linear reaction was obtained, and in order to facilitate numerous observations the ferment was reduced as far as possible. It will be seen in the second diagram that a strictly linear proportion is obtained and that the sensibility is such as to show a sufficiently marked variation between additions of 0·05 cubic centimetre of serum. The results below also sufficiently demonstrate the delicacy of the method. To 10 cubic centimetres of casein in four vessels 0·6, 0·55, 0·5, and 0·45 cubic centimetres of serum were added and an equal amount of trypsin added to each.

	0·6 c.c. serum.	0·55 c.c. serum.	0·5 c.c. serum.	0·45 c.c. serum.
Rise in γ in 4 hours =	46	53	67	71
„ „ „ 12 „ =	122	143	165	190

It will be seen by these results that the ordinates representing the rise at any given time give a sufficiently accurate gauge of the relative inhibitory power of three specimens by their direct arithmetical proportion. Inasmuch as it is impossible to obtain the real inhibitory value of the serum since the altered conditions of experiment preclude us from directly comparing the action of enzyme plus serum with enzyme alone, the results have all to be expressed in terms of the normal inhibitory power of an equal amount of serum, and this relation may be called the antitryptic index of the pathological serum examined. Thus if normal serum allows of an increase of conductivity of 250 gemmhos in a given time and Serum B allows of a rise of 200 gemmhos in the same time the antitryptic index of B is said to be + 0·25, whilst if the rise with normal serum be 200 gemmhos and with Serum C the rise of conductivity in equal time reaches 250 gemmhos, the antitryptic power of C is expressed in the index as −0·25. Unfortunately, it is impossible to standardise the enzyme added, though in successive experiments, in order to obtain similar conditions, it is well to add an approximately equal amount. It is therefore necessary to have a comparison with normal in each series of experiments. Up to recently this was always done with normal serum obtained from the observer, but the nuisance of undergoing daily punctures may be obviated by use of horse serum kept under aseptic conditions and standardised against normal at intervals of a few days.

It is necessary to assure oneself of the constancy of normal serum. The antitryptic power of serum from six normal individuals has been estimated and found to only show differences within the errors of experiment. Standardising the observers' own serum against horse serum, the human serum being obtained at different periods of the day and after prolonged fasting, no noticeable difference has been detected.

The antitryptic power of tuberculous serum.—In this preliminary notice it is proposed to deal only with observations carried on with the serum of tuberculous patients. The data which are being obtained with regard to other diseases are not yet sufficiently numerous to allow of any definite statement of results. The patients examined were 25 in number and included cases in my beds at St. George's Hospital, together with those of Dr. A. Latham who very kindly gave me every facility for examining his cases. Some of the more valuable continued observations were done on patients from Mr. E. C. Hort's practice, and it was from a fund under his control for the investigation of serum-therapy that the expenses of this research have been met.

Appended is a table of the results obtained in investigations of the antitryptic index in 25 cases of pulmonary tuberculosis:—

1.	Temperature =	97·0°	Antitryptic index		+ 0·85
2.	„ =	98·5°	„	„	+ 0·2
3.	„ =	98·5°	„	„	+ 0·16
4.	„ =	99·0°	„	„	Normal.
5.	„ =	98·0°	„	„	+ 0·2
6.	„ =	98·5°	„	„	Normal.
7.	„ =	100·0°	„	„	+ 0·32
8.	„ =	99·0°	„	„	Normal.
9.	„ =	98·5°	„	„	− 0·09
10.	„ =	100·5°	„	„	+ 0·2
11.	„ =	98·5°	„	„	− 0·1
12.	„ =	99·5°	„	„	Normal.
13.	„ =	98·5°	„	„	− 0·1
14.	„ =	101·0°	„	„	+ 0·05
15.	„ =	99·0°	„	„	+ 0·15
16.	„ =	100·0°	„	„	+ 0·07
17.	„ =	102·0°	„	„	Normal.
18.	„ =	100·0°	„	„	+ 0·07
19.	„ =	98·5°	„	„	+ 0·3
20.	„ =	99·0°	„	„	+ 0·5
21.	„ =	100·0°	„	„	+ 0·3
22.	„ =	98·0°	„	„	+ 0·05
23.	„ =	98·5°	„	„	+ 0·4
24.	„ =	97·0°	„	„	+ 0·25
25.	„ =	98·5°	„	„	Normal.

It will be obvious that the rise of antitryptic index in these cases has had no direct relation to the temperature. Consideration of these cases from the clinical point of view gave, however, the impression that the antitryptic index furnishes some indication of the degree of tuberculous intoxication. In the majority of cases that showed signs of progressive improvement the antitryptic index was normal or showed only a slight rise. In those cases in which the disease was progressing the index was much raised. In order to test the accuracy of this view two methods were adopted. Successive observations were made on a number of cases who either showed tendency to improvement or who were becoming markedly worse, and secondly, the response of persons with high or low antitryptic indices towards inoculation with tuberculin was observed by taking the antitryptic power of their serum before and after inoculation.

CASE 1.—A thin alcoholic man, aged 46 years, suffering from extensive tuberculous disease of both lungs. He was first seen at the beginning of September and except for a brief improvement attributable to his improved surroundings he steadily went down hill. Up to the beginning of October he was free from fever but after that he had a continuous irregular temperature ranging between 99° and 101° till his death in January of this year. On admission on Sept. 14th the antitryptic index was + 0·2. A week later the patient had shown some slight improvement and the index was + 0·16. On Sept. 28th the patient was given 0·001 gramme of tuberculin by the mouth and the blood taken immediately before and 12 hours after the inoculation. The rise of antitryptic index, taking that of the blood before inoculation as the normal, was + 0·2. The antitryptic index of the blood before inoculation was + 0·2. The patient showed a rise of temperature of half a degree after the inoculation. The patient was treated by inoculations of 0·001 gramme of tuberculin weekly. At the end of October his antitryptic index was + 0·4 and the effect of an inoculation was only a rise in the index as compared with the serum before inoculation of + 0·05. In December the index remained about + 0·4 and an inoculation gave no response. No furthur inoculations were performed till his death in January. It would appear therefore that as the patient became worse his power of responding to inoculations diminished whilst the antitryptic index increased. It here becomes important to decide whether the diminution of power of response was the effect of a high antitryptic index or the effect of a succession of inoculations. In the four cases here given it will be seen that the evidence points to the inability of a person with a high antitryptic index to

respond to an inoculation in the same degree as a patient with a low index.

(1) Antitryptic index = + 0·5. Index of serum after inoculation to that before = + 0·07 –
(2) Antitryptic index = + 0·4. Index of serum after inoculation to that before = + 0·1 –
(3) Antitryptic index = + 0·08. Index of serum after inoculation to that before = + 0·2.
(4) Antitryptic index = Normal. Index of serum after inoculation to that before = + 0·22.

In each case the inoculation consisted in the administration of 0·001 gramme of tuberculin.

CASE 2.—A young man, aged 23 years, discharged from the army with well-marked tuberculous infiltration of both lungs. This patient, who was under the care of Mr. Hort, reacted well to treatment and after four months was discharged with the disease arrested. Throughout the first two months of treatment he had an irregular temperature, ranging from 99° to 101°; during the third month the temperature gradually became normal. On admission the index was on the minus side, being – 0·01. Two weeks later it was found to be normal and remained normal till the time of the patient's discharge. It may be noted that throughout the whole course of his treatment he steadily gained in weight. The reaction to inoculation by 0·001 tuberculin was taken on five occasions. On admission the serum after inoculation, as compared with that before, showed a rise of index of + 0·5. The patient was inoculated twice a week for five weeks, at the end of which period an index of + 0·06 was obtained. At the end of the third month the post-inoculative index was + 0·08. Two further observations gave no rise of index at all towards the end of the patient's treatment.

CASE 3.—A woman suffering from tuberculous involvement of the whole of the left lower lobe gave at the beginning of her treatment an antitryptic index of + 0·18. Examined three months later, when the disease appeared to have been arrested, the index was normal. In this case no inoculations were performed but the patient had been treated by the method of auto-inoculation by Mr. Hort. Two other cases undergoing cure showed a variation of antitryptic activity in the same direction.

Two cases dying from acute pulmonary tuberculosis were examined shortly before death; in both cases the antitryptic index was high, being + 0·4 and + 0·5 respectively. In a series of 33 inoculations studied in tuberculous patients a rise of antitryptic index followed the inoculation in 24 cases, and the amount of rise appears to vary inversely to the antitryptic index in the patient as regards normal. The method would appear to afford additional evidence, were any needed, of the efficacy of the oral administration of tuberculous vaccines introduced by Dr. Latham. In four cases in which inoculation was practised on non-tuberculous subjects no rise was noted. Attempts have been made to find the time relations of the post-inoculative rise. The earliest period at which the rise was found was four hours after a subcutaneous inoculation. The index appears to return to its former level in about 40 hours if the dose be not so excessive as to cause marked reaction. In no case was a negative phase noted. Such rises of index after inoculation appear to occur independently of a rise of temperature, but in those cases in which no rise was noted there was never any increase of temperature succeeding inoculation.

The method of giving serum by the mouth together with vaccine has been used by Dr. Latham and he has noted that the vaccine can be given in this method in much larger doses. In a case under his care it was found that no rise of index followed an inoculation of $\frac{1}{10\,000}$ of tuberculin and on inquiry it was found that the dose had been given with five cubic centimetres of normal horse serum. After a few days the dose was repeated with the serum omitted and on this occasion a rise of index of + 4 was noted. In three cases of tuberculous disease of the joints no rise of the antitryptic index was found and results from inoculation proved to be negative. In a case of tuberculous glands operation was followed by a rise of antitryptic index of + 0·2 on the morning after operation.

It is hoped that if further researches confirm and extend the conclusions presented in this preliminary note we may be in possession of an easy physical method which has a negligible experimental error and unlike opsonic determinations does not necessarily remain in the hands of a few highly-skilled observers. By such a method the dosage of inoculation may be surely gauged when the temperature chart affords no help as occurs so frequently in cases of febrile tuberculosis. The index may also prove of prognostic value and the results hitherto arrived at seem to show that it is possible by its means to decide what cases are in need of inoculative treatment.

The materials so far at our disposal do not permit the discussion of the significance of the variations of the antitryptic power of the blood. Whether it be an expression of the attempt on the part of the organism to protect damaged cell tissue from autolysis, as Baer has demonstrated *in vitro* when serum is added to autolysing tissue, or whether it be an expression of the changes in antitryptic content evoked by the inoculation of the organism with the tryptic ferments from damaged and disintegrating leucocytes, are questions which must be determined by other methods than those of clinical observation. At present work is being carried on to determine the variation that may occur in the antipeptic power of the blood. As Opie and others have shown, both tryptic and peptic ferments occur in leucocytic ferments, and the latter occurs in the lymphocytes alone, whilst in the polymorphonuclear cells the tryptic ferment is predominant. Attempts are also being made to determine the question of the specificity of serum antiferments to the endo-enzymes of different tissues. A line of inquiry that much requires elucidation is one to determine the question as to whether variations of antitryptic power are due to increase or diminution of the antitryptic part of the serum or to variations in amount of the auxylytic substance which is generally supposed to be attached to the globulin moiety. In conclusion, I wish to express my thanks to Dr. Waller, in whose laboratory this work has been conducted, for his kindness in affording me every facility for my experiments.

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SPONTANEOUS CURE OF THORACIC ANEURYSM.

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LATENT thoracic aneurysm unattended by symptoms and physical signs, yet suddenly rupturing and causing immediate death, is not unknown, but with the spontaneous cure of thoracic aneurysm many of us are not familiar. As the possibility of such an occurrence is even questioned by some physicians I may be excused for bringing the following case under the notice of the readers of THE LANCET. The case was that of a man who, although the subject of recurrent dyspnœa especially of a nocturnal character, presented on examination no physical signs of disease of the aorta. In him the difficulty of breathing took the type of renal asthma and was relieved by the treatment usually adopted for it. At this stage in the history of the case and with all the details of the necropsy before me there seems to be nothing to alter in regard to what has been stated as to the cause of the shortness of breath.

The patient, a man aged 55 years, was admitted into the Royal Victoria Infirmary, Newcastle-upon-Tyne, on April 15th, 1908, suffering from extreme weakness and difficulty of breathing. Seven years ago he was an in-patient of the Royal Infirmary, Liverpool, on account of acute rheumatism from which he had suffered for four years previously. 12 years ago, while employed in marine works in Philadelphia, U.S.A., he lost his wife and four children all within 48 hours from malarial fever, the disease being epidemic in the city at the time. Four years ago the patient was suddenly seized with vomiting and diarrhœa. The

attack only lasted two days but in the act of vomiting and retching he felt "something suddenly give way in the chest. Shortly afterwards pain was felt in the left chest and his breathing became difficult." In consequence of this he gave up his appointment in America and coming to London he became an in-patient of Charing Cross Hospital. With rest and treatment he recovered sufficiently to be able to take up work again, and he continued working for a period of 15 months. At the end of this period as he was not feeling well he took a rest for six weeks, when he was again able to resume his duties which he discharged for six months.

When the patient came under my care he was the subject of difficulty of breathing of an intermittent character which was always worst at night. The arterial tension as estimated by the Riva-Rocci apparatus was equal to 180 millimetres of mercury. The radial pulse, which was rapid and irregular, was equal on both sides. Cardiac dulness commenced in the line of the left nipple and was carried to the right border of the sternum. Over the base of the heart the second sound was accentuated, while over the apex area the first sound was murmurish, feeble, and often indistinct. No apex beat could be felt. Owing to the difficulty of breathing the patient, especially at night, frequently occupied the semi-upright position. Beyond the signs of slight pulmonary emphysema and the presence of a certain amount of dulness over the base of the left chest posteriorly and in the axillary region nothing abnormal was detected on percussion. The respiratory murmur was coarse over the upper part of each lung, while over each base crepitation was heard. The urine had a specific gravity of 1025 and 22 ounces were passed daily; it contained a large quantity of albumin. The abdomen presented nothing abnormal. There was no œdema of the feet. The attacks of difficulty of breathing were relieved by inhalations of nitrite of amyl.

Three weeks after his admission into the infirmary the patient began to spit up blood apparently from the left lung. The breathing became Cheyne-Stokes in character, the periods of apnœa lasting frequently from 40 to 60 seconds. The urine fell to six ounces daily and contained blood. Five grains of theocine sodium acetate were administered every three hours and within 12 hours the urine rose to 84 ounces and on the following day to 96 ounces. For several nights the patient slept better; he seemed much improved and the bleeding from the lungs and the kidneys entirely ceased. The improvement only lasted a short while, for the patient was suddenly seized with acute pain over the right side of the chest. Over the affected area friction could be heard. The dulness over the base of the left lung increased and the respiratory murmur became almost inaudible. By degrees the quantity of urine diminished, the breathing became again difficult, and the pulse and the heart sounds feebler. The patient died exactly one month after his admission into the infirmary.

For the following notes of the post-mortem examination I am indebted to Dr. George Hall, pathologist to the Royal Victoria Infirmary:—

There is no œdema of the extremities. The pericardium contains a small quantity of free fluid. The left pleural cavity contains about two pints of fluid, in consequence of which the lower lobe of the lung is compressed. The right chest shows signs of recent pleurisy. In addition to the collapse just mentioned the lungs are œdematous at the bases and at their margins are emphysematous. The heart is large. The parietal pericardium over the left ventricle is thickened. The mitral orifice admits the tips of two fingers; its cusps are normal. The cavity of the left ventricle is slightly dilated and its walls considerably thickened. The aorta at its origin showed several fatty and atheromatous patches, between which are interspersed calcareous plates. About one inch above the valve, the cusps of which are healthy, there is a well-defined aneurysmal dilatation of the vessel which extends almost to the origin of the left carotid and subclavian arteries, while beyond this there is at the commencement of the descending aorta a fusiform dilatation of the vessel. The main aneurysm which is saccular has a definite daughter saccule nearly the size of a golf ball springing from its anterior surface and pointing forwards. The dilatation of the aorta extends to the root of the innominate artery but not into the vessels arising from it. The interior of the aneurysm is occupied by firm decolourised clot but this does not extend into the innominate artery to block it. At places the clot is firmly adherent to the wall of the aorta. A careful examination of the aneurysm fails to detect any involvement of nerves in the sac. The tricuspid orifice admits the tips of five fingers. The pulmonary artery and valves are healthy. Liver and spleen call for no comment. The kidneys:—The right is small and contains a cyst of the size of a chestnut; the capsule on being stripped off leaves a rough surface and several minute cysts; the cortex is thin and pale and the substance tough. The left kidney shows similar changes to those observed in the right. Both may be described as pale contracting kidneys.

Whatever may be our opinion in regard to the gravity of thoracic aneurysm it is within the experience of physicians that patients who are the subjects of this affection may not only live a considerable time after their malady has been detected but that even alarming and distressing symptoms may temporarily subside or even entirely disappear. Death does not always come by rupture of the sac, threatening at times as this may seem. Where improvement has taken place for a period and the patient has subsequently succumbed to an intercurrent malady, the aneurysm at the necropsy is frequently found to have been undergoing a process of cure, nature's method of accomplishing this being the strengthening of the walls of the sac by the internal deposition of layer after layer of clot which diminishes the shock imparted to the sac by each systole of the left ventricle. While such a deposition of fibrin occurs in aneurysms situated at some distance from the heart and occasionally leads to spontaneous cure it is maintained by some pathologists that the conditions of quietude, lowered arterial tension, and slowing of the circulation, which are essential to the formation of clot within an aneurysmal sac are almost impossible when the aneurysm is near the heart; for example, on the ascending portion of the arch of the aorta. Notwithstanding all these it is yet a fact that in a large number of cases of thoracic aneurysm, especially of the sacculated type, clot is found in the interior, indicating an effort on the part of nature to establish a cure.

The presence or absence of coexisting aortic regurgitation is not without importance in regard to the deposition of fibrin in thoracic aneurysm. If there is aortic incompetence of any severity there can hardly be in the interior of a thoracic aneurysmal sac the same favourable conditions for clotting likely to appertain where there is no aortic reflux, for in uncomplicated cases of thoracic aneurysm the left ventricle of the heart is usually not hypertrophied to any extent, if at all, while it is enlarged in aortic regurgitation. The fact that patients occasionally live for several years after their thoracic aneurysm has been detected can only be explained by the presence of the firm clot in the interior of the sac observed after death.

A few of my own patients suffering from thoracic aneurysm lived seven or eight years, and in one case even longer, after first coming under observation, others for several months, notwithstanding recurrent and copious hæmorrhages. As bearing upon this question of longevity of patients suffering from thoracic aneurysm and their not being disqualified for work which necessitated considerable strain, I cannot do better than quote the case of Dr. George A. Gibson of Edinburgh alluded to by the late Sir William T. Gairdner in Allbutt's System of Medicine.[1] The patient was a man, aged 39 years, a lamp-lighter by occupation, who lived for 12 years after his aneurysm was detected and who during that period frequently "undertook the duties of the keeper of one of the Edinburgh monuments which involved his ascending sometimes 50 times a day to a height of almost 200 feet."

Although it is by the deposition of clot within the sac that the further development of aneurysm is checked and the physical signs of the tumour as well as the symptoms caused by it become altered in character there are, it need hardly be mentioned, different kinds of clot to be considered in this relationship. Cure can only take place through organisation of the clot. This occurred so completely in the patient whose case is the subject of these notes that although a large aneurysm of the thoracic aorta was found after death it was consolidated and its clot so thoroughly organised that it gave rise to no symptoms, it had apparently ceased to exist, and in no way contributed to the fatal termination. On microscopical examination of sections of the aneurysm the outer part of the clot is observed to have become transformed into dense layers of fibrous tissue. Organisation has completely taken place. Numerous large spindle-shaped fibroblasts can be seen in the outer half of the thrombus. The altered layers of fibrin are observed to be becoming encroached upon by new capillaries and granulation tissue cells.

Newcastle-upon-Tyne.

[1] Vol. vi., p. 411.

A CASE OF

AMPUTATION THROUGH THE HIP-JOINT IN WHICH THE HÆMORRHAGE WAS CONTROLLED BY INTRAPERITONEAL COMPRESSION OF THE COMMON ILIAC ARTERY.

BY E. W. ROUGHTON, M.D., B.S. LOND., F.R.C.S. ENG.,
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THE patient, a girl, aged 13 years, was admitted to the Royal Free Hospital on Nov. 19th, 1908, having sustained a fractured femur through falling from a tram-car. At the time it was thought that the fracture was an ordinary one. As a matter of routine a skiagram was taken. It was then found that there was a very oblique fracture of the upper end of the femur. Extending from the base of the great trochanter, about five inches down the shaft, the line of fracture passed through an oval area, which was much less dense than the rest of the bone. On inquiring more closely into the nature of the accident it was found that the girl had slipped from one step to the next one and had suddenly sat down on the upper step. The amount of violence was clearly insufficient to break a normal femur. It was obvious that we had to deal with a "spontaneous" fracture passing through some kind of new growth. It was therefore decided to cut down upon the fracture and to investigate the lesion. Consent to perform an amputation, should it be necessary, was obtained from the parents.

On Nov. 27th an incision was made from the great trochanter extending seven or eight inches down the outer side of the thigh. The fracture was found to pass through an expanded portion of the femur dividing it into an anterior and a posterior portion. The fractured part of the femur was hollowed out into a cavity extending up into the base of the great trochanter; it was apparently filled with recent blood clot; on cleaning it out I removed a small piece of "growth" of the size of a date from the upper end of the cavity. This was subjected to rapid microscopic examination and was reported to be probably sarcomatous but not of the myeloid variety. I then decided to amputate at the hip-joint. The common femoral artery and vein were tied through a separate incision opposite Poupart's ligament. Whilst this was being done my colleague, Mr. T. P. Legg, opened the abdomen in the manner described below and made digital pressure on the common iliac artery. The exploratory incision was then converted into a racquet-shaped incision encircling the thigh at the junction of the upper and middle thirds. The skin flaps thus formed were retracted for nearly half their length, and the muscles on the anterior and outer aspect were severed as they came into view; the head of the femur was disarticulated and the posterior muscles were divided from within outwards. No arteries spurted and the blood lost was apparently only that which belonged to the limb below the site of amputation. There was a moderate degree of shock. This would probably have been less marked had not the assistant who had been told off to do intravenous saline infusion experienced great difficulty in finding a suitable vein. The patient made an excellent recovery.

The following report of the specimen removed and of its microscopic characters is kindly furnished by Miss Chambers, M.D. Lond., clinical pathologist to the hospital:—

There is a cystic cavity in the upper end of the femur causing uniform enlargement of the whole circumference of the shaft. It commences five inches below the summit of the trochanter and causes a gradual expansion of the shaft below upwards. There is a very oblique fracture extending almost vertically from three-quarters of an inch below the tip of the great trochanter to a point six inches below at the middle of the shaft and dividing the bone into anterior and posterior fragments. It extends through the cyst wall. The cavity of the cyst is oval in shape. It is two and a half inches in length and one and a half inches in width at the widest part. The wall is formed by a thin layer of hard bone one-eighth of an inch in thickness. It is nowhere softened by invasion with growth. The cyst is now empty. Its inner surface is smooth, being covered by a thin layer of soft tissue. Several shallow cystic spaces extend into the base of the great trochanter. The periosteum and the tissues immediately surrounding the upper part of the shaft are grey and gelatinous. This layer is thin and in places is only one-quarter of an inch in thickness. It is most marked at the lower end of the fracture and is here about one inch in thickness. It does not extend completely round the shaft and is thickest along the line of fracture. The periosteum can be easily stripped from the bone. The head of the femur and the lower part of the shaft are normal. The structure of the grey gelatinous material resembles that of myxomatous tissue and incloses many fragments of striated muscle. The cells are spindle and stellate and in most places are widely separated. A piece of tissue removed from the cavity of the cyst at the time of operation has a similar myxomatous structure. The microscopic changes can be explained either by (1) early formation of callus or (2) a slowly growing myxo-sarcoma arising from the periosteum. Sections from tissue scraped from the inner wall of the cyst have failed to detect any structure like that found outside and only show clot and fibrous tissue. The macroscopic evidence—viz., the limitation of the "growth" to the line of fracture, the fact that it is most marked where most movement has occurred—i.e., at the lower end—that it is elsewhere comparatively slight, the lack of softening of the bone and taking into consideration that the microscopic appearance of proliferating periosteal cells and a slowly growing sarcoma from the periosteum might be very similar, all these reasons lead me to think that the case is one of simple cystic distension of the shaft.

The Control of Hæmorrhage in Severe Operations about the Hip.—In May, 1898, Mr. W. H. Battle (at that time one of my colleagues at the Royal Free Hospital) asked me to see a case of traumatic gluteal aneurysm. I suggested that the internal iliac artery should be compressed by the finger introduced through a small abdominal wound whilst the aneurysm was being dealt with. I did this whilst Mr. Battle operated and was able to control the bleeding most effectually. The case is published in the *British Medical Journal* of Nov. 5th, 1898. No further opportunity of trying this method occurred until last September, when I compressed the common iliac whilst my colleague Mr. Legg amputated at the hip-joint for sarcoma of the femur. The amount of blood lost was trivial.[1]

On referring to the literature of the subject I find that McBurney[2] was the first to describe the method. It has also been used by Raymond Johnson[3] in a case of aneurysm in the groin. With the exception of a scanty reference in Jacobson's "Operations," I find no mention of the method in the British text-books in common use. I therefore infer that the method is not so well known as it deserves to be.

The incision should be through the outer third of the sheath of the rectus, the muscle being displaced inwards; a clip may be placed on the deep epigastric artery to control any collateral circulation from the internal mammary. The incision through the posterior sheath and peritoneum should be just large enough to admit two fingers comfortably. The index and middle fingers are introduced and placed on the common iliac artery in such a way that the tip of the longer middle finger reaches just beyond the vessel, whilst the tip of the shorter index finger just reaches to the middle of it. In this manner the artery is safely pinned against the vertebral column and cannot slip away. The pressure of the fingers may be reinforced by the disengaged hand laid outside the abdominal wall. At the end of the operation the wound is sutured in the usual manner. By this method every vessel severed in amputation at the hip-joint can be absolutely and certainly controlled without in the least degree interfering with the freedom of the operator. In these respects I believe it is far superior to every other method. The only objections that can be urged against it are the slight additional risk of opening the peritoneum and the necessity for one more competent assistant.

Queen Anne-street, W.

THE USE OF INTRAPERITONEAL COMPRESSION OF THE COMMON ILIAC ARTERY DURING AMPUTATION THROUGH THE HIP-JOINT.

BY T. P. LEGG, M.B., M.S. LOND., F.R.C.S. ENG.,
SURGEON TO THE ROYAL FREE HOSPITAL, GRAY'S INN-ROAD, LONDON, W.C.

A YOUTH, aged 16 years, was admitted to the Royal Free Hospital on Sept. 21st, 1908, suffering from a large swelling in the lower part of the left thigh. Three months previously he had been struck by a piece of wood just above the knee-joint. At the time nothing abnormal was observed, but a month later a hard swelling was noticed on the anterior surface of the left thigh. It rapidly increased in size during the succeeding fortnight and he became unable to walk or to bend his knee. On examination a large tumour involving the

[1] See report of Mr. Legg's case on this page.
[2] Annals of Surgery, 1894, vol. ii., p. 181.
[3] Transactions of the Clinical Society of London, vol. xxxi., p. 288.

whole circumference of the left femur in its lower half was found. The tumour had the usual characteristics of a periosteal sarcoma and this diagnosis was confirmed by a skiagram. The limb below the knee was œdematous and a very small range of movement was possible in the joint. There was no evidence of secondary deposits in the lungs, but the inguinal lymphatic glands were enlarged.

Amputation through the hip-joint was performed on Sept. 30th. The femoral artery and vein were ligatured in two places at Poupart's ligament and the vessels were divided between the ligatures. While this was being done, my colleague, Mr. E. W. Roughton, opened the abdomen through a short incision just inside the left linea semilunaris, and during the remainder of the operation compressed the common iliac artery. The amputation was done through the anterior racquet incision, the handle of the racquet being formed in part by the vertical incision through which the femoral vessels had been exposed and ligatured. The flaps consisted of skin and subcutaneous tissues, the muscles being cut as short as possible. The amount of blood lost was quite small and very little shock followed the operation. Unfortunately the wound became infected and a portion of one flap sloughed; the abdominal incision healed by primary union. From the pus in the stump a pure culture of bacterium coli commune was obtained. The patient left the hospital on Nov. 23rd, only a small sinus remaining in the stump.

On examining the specimen the muscles were found to be extensively infiltrated by a soft white growth which on microscopic examination proved to be a spindle-celled sarcoma. The glands did not contain any growth.

My reason for publishing this case is to bring forward a method of controlling the hæmorrhage by compression of the common iliac artery through an abdominal incision during the performance of an amputation through the hip-joint. The method is both simple and efficacious, but it is not apparently so well known as it deserves to be, and it was my colleague, Mr. Roughton, who suggested its use to me. It is not a new method, for an account of its employment in similar cases will be found in a paper by McBurney in the *Annals of Surgery* for August, 1894. The ordinary text-books on operative surgery do not contain any reference to it, and in the last edition of Jacobson and Rowlands's "Operations of Surgery" it is referred to in a line and a half of small print. When amputation through the hip-joint is done for periosteal sarcoma of the femur the muscles should be cut as closely as possible to their pelvic attachments; this is impossible when skewers are used, as in Wyeth's method, or a tourniquet is employed to control the hæmorrhage. During the division of the muscles, large branches from the obturator, sciatic, and gluteal arteries are severed, and by compressing the common iliac artery the hæmorrhage from these vessels can be completely controlled, and as the loss of blood is one of the most important causes of the shock which follows the operation, this important factor can be eliminated. Moreover, by relaxing the compression of the common iliac artery from time to time whilst the divided vessels are being picked up by the pressure forceps, it is easy to see the exact spots where to apply the forceps, thus rendering the application of the ligatures quite simple and reducing the amount of hæmorrhage during this part of the operation to a minimum. If the common iliac artery is efficiently controlled, the common femoral need not be ligatured before it is divided; but as this vessel and the corresponding vein have to be tied it is perhaps better to ligature them both at the commencement of the operation. It is perhaps needless to point out that the common femoral vein should be tied or held by forceps before it is divided. To compress the common iliac artery the abdomen should be opened just inside the linea semilunaris, and the rectus muscle is displaced inwards. The incision need only be about three inches in length, and placed so that its centre is just below the level of the umbilicus; the peritoneum is divided so as to permit the insertion of a couple of fingers. The intestines are displaced to one side and the artery is felt for on the fifth lumbar vertebra, against which it is compressed by the palmar surfaces of the last phalanges of the first and second fingers. No great amount of force is required to completely arrest the circulation, and consequently no ill effects will follow. If a competent assistant is at hand he can open the abdomen whilst the surgeon is tying the common femoral vessels and close it whilst the flaps of the stump are being sutured. If such assistance cannot be obtained the length of time of the whole operation will be slightly prolonged—viz., by so much time it takes to open and close the abdomen. The amount of shock is not appreciably increased by this procedure, and in these days there should be no danger of peritonitis, so that the method deserves to be more widely employed.

It is interesting to notice that in the case here recorded, although the amputation wound became infected, the abdominal incision healed by primary union.

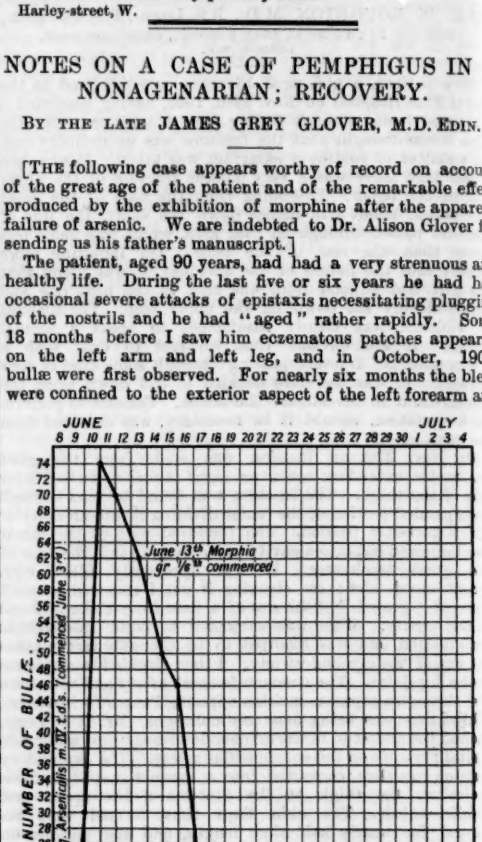
Harley-street, W.

NOTES ON A CASE OF PEMPHIGUS IN A NONAGENARIAN; RECOVERY.

BY THE LATE JAMES GREY GLOVER, M.D. EDIN.

[THE following case appears worthy of record on account of the great age of the patient and of the remarkable effect produced by the exhibition of morphine after the apparent failure of arsenic. We are indebted to Dr. Alison Glover for sending us his father's manuscript.]

The patient, aged 90 years, had had a very strenuous and healthy life. During the last five or six years he had had occasional severe attacks of epistaxis necessitating plugging of the nostrils and he had "aged" rather rapidly. Some 18 months before I saw him eczematous patches appeared on the left arm and left leg, and in October, 1907, bullæ were first observed. For nearly six months the blebs were confined to the exterior aspect of the left forearm and


JUNE
JULY
NUMBER OF BULLÆ.
Liq. Arsenicalis m. iv t.d.s. commenced June 3rd.
June 13th Morphia gr. 1/6th commenced.
June 25th Liq. Arsenicalis m. v. t.d.s.

The vertical figures show the number of bullæ upon the dates which are indicated above and below.

to the outer side of the left thigh and appeared only once or twice a week. The patient was otherwise well, the pulse being regular and remarkably constant at 72 per minute. Since the skin trouble commenced there had been no epistaxis. The urine throughout had been free from sugar and albumin and contained a good percentage—2·3—of urea. In May, 1908, the bullæ on the right arm became more frequent and the patient was given gradually increasing doses of arsenic—one minim of Fowler's solution on May 7th, two minims on the 28th, and three minims on the 30th—three times a day. On June 1st the itching became very severe and the patient had no sleep. On the 3rd the arsenic was increased to four

minims three times a day, with some improvement. On the 8th there were 13 new bullæ, the scrotum and thighs being the worst parts. On the 9th 30 fresh bullæ were counted and the itching during the night was terrible. On the 10th 74 fresh bullæ appeared, chiefly on the arms, the axillæ, the thighs, the scrotum, and the legs. They were almost confluent. On the 11th 70 new bullæ appeared. On the 12th the patient had a restless night, in spite of the administration of 15 grains of trional. Unfortunately there is no record of the fresh bullæ appearing on the next two days, it being almost impossible to count. On the 13th, after having no sleep all night, the patient was ordered one-sixth of a grain of morphine. On the 14th the patient, having had an excellent night, the new bullæ numbered 50, and were flaccid rather than tense, usually a bad sign. On the 15th, after a bad night, they numbered 47, and another one-sixth of a grain of morphine was ordered. On the 16th the new bullæ were "much fewer." On the 17th they numbered 11, on the 18th 18, and on the 19th eight, one-sixth of a grain of morphine being given by the mouth each night. On the 25th the dose of Fowler's solution was increased to five minims three times a day, the irritation being still very great. For the next three weeks bullæ appeared on an average of three or four a day, gradually diminishing until on July 15th the patient had four consecutive nights without any fresh bullæ, then a few nights with single bullæ, and then an almost complete cessation. With very short intervals the arsenic was continued. There was great dryness of the skin and some exfoliation, but otherwise the skin recovered wonderfully. The condition of the patient, however, remained at a much lower level than before the illness, which has naturally "aged" him a great deal.

The case well bears out Hutchinson's dictum that it is precisely in senile subjects that exceptional features occur, and that arsenic is every now and then found to fail. The prognosis in aged subjects is always grave, and I can find no recorded case in which the age exceeded 71 years, which makes a recovery at the age of 90 years very remarkable. Other points of interest in the case are the previous history of epistaxis and the complete failure of all local measures to arrest the disease or to allay the frightful irritation.

JUXTA-EPIPHYSEAL INFLAMMATION OF THE UPPER END OF THE HUMERUS.

BY ARTHUR F. MESSITER, M.R.C.S. ENG., L.R.C.P. LOND.

A DAY or two after a fall from a chair, a boy, two and a half years old, was found to be feverish and suffering from a painful and swollen shoulder. When I saw him 12 days after the commencement of his illness he was evidently in a very critical condition, and on opening a large abscess under the deltoid I found that the shaft of the humerus was separated from the upper epiphysis and divested of periosteum for an inch or more; the bare surface of the epiphysis was smooth and cartilaginous. Some months afterwards a piece of bone of the size of a finger-nail was extruded and the opening then quite healed up. An interesting feature is that there is absolutely no shortening due to arrest of growth, and the arm is practically as good as the other. A skiagram taken five years afterwards shows the shaft and epiphysis reunited, the space occupied by the conjugal cartilage being clearly seen. The growth of the shaft since its separation is shown by a bend in it, evidently caused by a slightly faulty "setting" of the shaft with the epiphysis owing to the tilting of the latter by the spinati muscles. This angular union is commemorated by the bend being maintained in the shaft as it grew from the epiphyseal cartilage. The bend has receded from the cartilage three inches in five years. This case is a good illustration of the fact that in juxta-epiphyseal ostitis the inflammatory products do not gain access to the shoulder-joint, owing to the attachment of the periosteum to the conjugal cartilage, a fact which, I presume, is recognised at the present time, but was certainly not generally taught a few years ago, for in the 1897 edition of a well-known standard text-book I find the statement that "as the inner part of the epiphyseal cartilage is just within the capsule the pus in suppurative epiphysitis will find its way into the joint."

Mr. Charles White of Manchester in 1769 read a paper before the Royal Society, entitled "An Account of a Case in which the Upper Head of the Os Humeri was Sawn Off, a Large Portion of the Bone afterwards Exfoliated and yet the Intire Motion of the Limb was Preserved." This case is well known to all students of surgical history and has up to the present time, so far as I am aware, been admitted to be a sound basis for the claim of Charles White to be the pioneer in the matter of excision of diseased joints. This paper, illustrated by a plate, was subsequently printed in his "Cases in Surgery," a copy of which is in my possession. "Edmund Pollitt, aged 14, was admitted into the Manchester Infirmary, April 6th, 1768. He had been suddenly seized, about a fortnight before, with a violent inflammation in his left shoulder, which terminated in a large abscess which was opened with a lancet a few days before his admission. The orifice was situated near the axilla, upon the lower edge of the pectoralis major, and through it I could distinctly feel the head of the os humeri totally divested of its bursal ligament. The matter which was very offensive and in great quantity had made its way down to the middle of the humerus and had likewise burst out at another orifice just below the processus acromion, through which the head of the os humeri might easily be seen. The whole arm and hand were swelled to twice their natural size and were entirely useless to him. He suffered much pain, and the absorption of matter had brought on hectic symptoms, such as night sweats, diarrhœa, quick pulse, and loss of appetite which had extremely emaciated him. ..... On the fourteenth of the same month I began my incision at that orifice which was situated just below the processus acromion and carried it down to the middle of the humerus, by which all the subjacent bone was brought into view. I then took hold of the patient's elbow and easily forced the upper head of the humerus out of its socket and brought it so entirely out of the wound that I readily grasped the whole head in my left hand and held it there till I had sawn it off. ..... In about five or six weeks I perceived the part from which the bone had been taken had acquired a considerable degree of firmness, and he was able to lift a pretty large weight in his hand. At the end of two months I found that a large piece of the whole substance of the bone that had been denuded by the matter was now ready to separate from the sound and with a pair of forceps I easily removed it. After this exfoliation the wound healed very fast, and on August 15th he was discharged perfectly cured. On comparing this arm with the other it is not quite an inch shorter; he has the perfect use of it and can not only elevate his arm to any height but can likewise perform the rotatory movements as well as ever. The figure of the arm is in no ways altered and from the use he has of it and its appearance to the eye and touch I think I may safely say the head, neck, and part of the body of the os humeri are actually regenerated ..... the osseous matter could not proceed from the scapula, the glenoid cavity of that bone not being divested of its cartilage."

I submit that this was not a case of excision of the head of the humerus but the removal of the upper part of the shaft, that the head of the bone still remained in the glenoid cavity, and that the cartilaginous concave surface of the epiphysis tilted upwards and outwards was mistaken for the glenoid cavity. Indeed, Fig. 1 in Mr. White's illustration is obviously not the head of the humerus but the upper carious end of the shaft, and his necessarily implied suggestion that the whole of the epiphysis became carious and utterly disappeared from suppurative arthritis in three weeks is incompatible with his statement that the glenoid cavity was not divested of its cartilage. Mr. John Poland, in his "Traumatic Separation of the Epiphyses," cites cases which show that it is the rule for the joint not to be opened in separation of this epiphysis unless unusual violence has been applied, and he mentions one case (p. 182) which is so apposite to my present argument that I reproduce his quotation: "M. Guéretin has reported an instance in which the wound was caused by the lower fragment piercing through the deltoid and integuments. The purulent discharge from this wound was enormous. Amputation was performed on the forty-ninth day and death ensued on the sixty-third. It is remarkable that the amputation was intended to be and

was supposed to have been done through the joint, but at the autopsy the head of the bone was found in place; its end was hollowed out to the depth of about one-third of an inch, and this concave surface had been mistaken for the glenoid cavity."

Epworth.

GRADUATED REST IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

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I AM well aware that in choosing the above title I lay myself open to a charge of pedantry, nevertheless the title was chosen after very careful consideration in order to make conspicuous the paramount importance of rest in the treatment of pulmonary tuberculosis. Graduated rest may be the same thing as graduated exercise or graduated labour, and yet there is a difference in the emphasis. In the one case the rest and in the other the exercise is hidden in the common term "graduated," but the rest factor has been in the past, I think, far too much obscured.

It is well to remember before going on to a consideration of this subject that a considerable number (though doubtless a small percentage of the whole) of persons suffering from developed tuberculosis of the lungs make a good recovery without any treatment worth mentioning. These cases must be remembered before ascribing cures to any given method of treatment, and in the consideration of treatment the cases should not be carefully selected.

It may be as well to observe at the outset that even in the most slackly conducted sanatoriums a certain measure of rest has always been enforced, and this, which was probably the determining factor in any good results which were obtained, has too often been placed in the background, and methods of treatment the only distinction of which is their extremeness have often received the credit.

It will be well before proceeding further to consider how persons suffering from consumption were treated before sanatoriums with their much improved, though often faulty, methods were introduced. In order to illustrate what I mean I cannot do better than quote a portion of a lecture delivered by Professor Niemeyer of Tübingen[1] at least so long ago as 1866. He makes the following observations in the course of other remarks on treatment:—

> In the first case strict measures are as a rule considered useless and their enforcement unnecessary. The patient is allowed to follow his employment until the rising pyrexia and the increasing debility force him to remain at home, or until hæmoptysis, pleuritic pains, the appearance of dulness over the chest urgently demand that the supposed "secondary" pneumonia and pleuritic processes be submitted at least to a symptomatic treatment. It will not be said that I exaggerate; let us be sincere! Is not this "*laisser aller*" practice founded on reasoning of everyday occurrence with regard to the affection under discussion? It is seldom that a medical man reproaches himself for having by his carelessness been guilty of the developments of a phthisis florida (galloping consumption). ..... It is true, even in case the physician should have fully recognised the nature of the disease, he will not be able to cut it short at once, but still he has every reason to give the strictest orders, he must do everything in his power to protect the patient from injurious influences; and to place him under such conditions as may be expected to put a stop to the further extension of the pneumonic process; and prevent its termination in cheesy infiltration and disintegration of the lung tissue. ..... Let anyone make the experiment of having patients with the supposed signs of commencing pulmonary tuberculosis strictly confined to their beds for a time, forbidding them all unnecessary talking and coughing ..... and he will soon satisfy himself that many a patient gets well who would formerly have been assumed to be the subject of tuberculosis and therefore incurable.

Anyone who will take the trouble to enforce this method of treatment will speedily be convinced of the soundness of the above observations.

There is no doubt that improvements in the methods of diagnosis have provided cases for treatment which a few years ago would not have been regarded seriously; some of these, doubtless, never got worse. Those chiefly referred to here are distinguished by the occurrence of an initial hæmoptysis, or an initial pleurisy: two conditions fortunately recognisable without much difficulty. A few years ago pleurisy was not treated differently from acute pneumonia or influenza, its possible or probable ultimate development was not realised, and persons suffering from even a considerable hæmorrhage were not treated for any length of time; this carelessness was no doubt partly attributable to the number of cases which never relapsed.

The following tables show the manner of incidence of tuberculosis occurring in 225 men and 73 women, collected by me from the records of the Hospital for Consumption and Diseases of the Chest, Brompton. The duration of time between the occurrence of the initial symptoms and their admission to hospital is given in order to indicate the average relative acuteness of the process.

TABLE I.—*Showing the Manner of Incidence of Tuberculosis occurring in 225 Men.*

Symptoms.	Cases.	Per-centage.	Average duration before admission.	Extremes of duration before admission.
Cough	77	34·2	21 months	—
Hæmoptysis	42	18·6	34 ,,	Longest 13 years. Shortest three months.
Pleurisy	41	18·2	52 ,,	Longest 12 years. Shortest three months.
Miscellaneous, including loss of flesh, weakness, dyspepsia, and dyspnœa	31	13·7	15 ,,	—
Influenza and catarrh associated with fever	18	8·0	15 ,,	—
Laryngeal...	8	3·5	16 ,,	—
Commencing like an acute pneumonia ...	8	3·5	22 ,,	—

TABLE II.—*Showing the Manner of Incidence of Tuberculosis occurring in 73 Women.*

Symptoms.	Cases.	Per-centage.	Average duration before admission.	Extremes of duration before admission.
Cough	24	32·8	26 months	—
Hæmoptysis	15	20·0	33·7 ,,	Longest 12 years. Shortest two months.
Pleurisy	19	26·0	47·8 ,,	Longest 16 years. Shortest five months.
Miscellaneous, including loss of flesh, weakness, dyspepsia, and dyspnœa	4	5·5	22 ,,	—
Influenza and catarrh associated with fever	3	4·1	8 ,,	—
Commencing like an acute pneumonia ...	2	2·7	8·5 ,,	—
Associated with pregnancy	6	8·2	15·4 ,,	—

It may be noted from a consideration of these tables that all the cases, with the exception of those commencing with hæmoptysis or pleurisy, must have run a fairly rapid course.

The chief measures at present adopted for the treatment of tuberculosis may be stated generally to be—(1) rest; (2) a suitable and sufficient dietary; (3) graduated exercise; and (4) fresh air. The chief controversies have arisen over the relative proportion of rest to exercise which is necessary to bring about a cure; my intention is to deal chiefly with this aspect of treatment.

It will be well to mention here certain particulars with regard to the theory of the formation of opsonins. It is supposed that for the satisfactory evolution of opsonin to occur the following factors must coöperate: certain of the products, at present but imperfectly defined, of the specific micro-organism, in this instance the tubercle bacillus, must be able to find their way into the fluid tissues of the body; for convenience we will call these products tuberculin. The formation of toxins and antitoxins, though undoubtedly

[1] Clinical Lectures on Pulmonary Consumption, by Felix von Niemeyer, M.D., The New Sydenham Society, 1870.

intimately interwoven with the subject, will only be indirectly referred to here, the antibacterial products being chiefly considered. In addition to the presence of tuberculin there is some reason for supposing that movement of muscle[2] is necessary for the production of opsonin; this substance is probably largely instrumental through raising the blood pressure. It might be inferred from the above that exercise would prove more beneficial than rest in the treatment of tuberculosis, nevertheless it is probable that much more harm is done by excessive exercise than by excessive rest; the reason for this will, I think, appear later.

There is reason for supposing that active movements and mechanical disturbance of the actual focus of disease will produce an increase in the amount of the products of the bacillus and will assist in the distribution of these products. This process corresponds clinically with an increase of local signs of inflammation, following upon movement and mechanical disturbance of the parts. Massage of joints when beneficial is probably so on this account.

It must be remembered that rest is undoubtedly the most potent therapeutic factor we possess for arresting the spread of tuberculosis; it is the only way of preventing the laying down of fresh tubercles, and as consolidation largely consists in a great agglomeration of tubercles *rest* may often prevent the occurrence of considerable consolidation, and as consolidation is antecedent to excavation, and with excavation in order to protect the healthy lung, we require a considerable amount of fibrosis, by keeping a patient in bed we may prevent the formation of a chronic invalid. The great difficulty in treating any tubercle which has been allowed to form lies in the very nature of its anatomical structure, for if tubercle bacilli lie long enough undisturbed in the tissues they become surrounded by avascular tissue composed of cells of various kinds which for lack of nourishment degenerates into caseous masses. Tubercles which have become avascular represent portions of lung tissue which have passed beyond the possibility of recovery, though perhaps not of some kind of repair, and no treatment can possibly bring about a return to the normal condition. The portion of lung lost is lost as irrevocably as an amputated limb. These caseous masses may become shut off by fibrous tissue from the healthy lung tissue, or the fibrous tissue may only imperfectly surround them, the disease spreading at one or other edge, or the mass may protrude into an air vesicle or bronchus and be expectorated, leaving a cavity which may vary in size from a millet seed to one occupying the whole of one lobe. The former may be comparatively unimportant, the latter is very serious, and all degrees between these two extremes are to be met with. The number of tubercles, therefore, which are allowed to become bloodless has a very important bearing upon treatment, for when caseous masses have been formed or cavities have been excavated with walls consisting of fibrous tissue they become beyond the reach of any known treatment and, it is quite safe to prophesy, beyond the reach of any treatment which will ever be discovered, and no antitoxin or tuberculin or serum can ever cure these areas. Avascular tubercles, though producing no tuberculin that can be curative, always remain sources of danger owing to the virulent tubercle bacilli which they contain.

When an early acute case is put to bed the conditions existing in the lungs may be illustrated, perhaps somewhat fancifully, as follows. There are already a number of bloodless tubercles scattered about the lungs; in addition, scattered about are colonies of tubercle bacilli which have not yet been able to ensheath themselves in cellular elements and still in actual contact with the living tissues of the body; these are the bacilli which produce the tuberculin necessary to bring about a cure. It is here contended that rest of an absolute kind will prevent these last-mentioned tubercles from becoming bloodless; they will, of course, never be visible anatomically.

For the purposes of argument tuberculous lesions have been divided into the following classes: 1. Tuberculosis affecting the skin and mucous membrane. 2. Tuberculosis of joints. 3. Tuberculosis of solid organs. 4. Tuberculosis of the lungs: (*a*) acute febrile tuberculosis (see definition further on); (*b*) tuberculosis affecting chiefly the pleura; (*c*) localised tuberculosis of one apex, diagnosed by the occurrence of hæmorrhage; and (*d*) chronic tuberculosis, chiefly characterised by excess of fibrosis—(1) when the infection is pure, and (2) when the infection is mixed. 5. Tuberculosis of the larynx.

Before continuing further it will be well to recapitulate the conditions necessary for a cure to be brought about. The right kind and right amount of tuberculin must be present; the right kind is always potentially present and may be derived from the patient's own lesions. Furthermore, the tuberculin must be able to reach the general tissues of the patient; in addition, it is assumed a substance derived from muscle must be present.

Tuberculosis affecting the skin is extremely chronic, yet it is very persistent and spontaneous healing seldom occurs; it is difficult to demonstrate the tubercle bacilli in the lesions, owing to their scanty number; probably very little tuberculin is formed. We also noticed that the skin is comparatively speaking motionless, or at least seldom changes its position relatively to the rest of the body, and hence the lesions are not by movement provoked into activity; these patients are, however, able to take plenty of exercise; further, the diseased part is kept at rest, which as a rule tends to promote healing. We might therefore conclude that lupus failed to heal owing to the absence of sufficient tuberculin. There is some evidence that this is the case, for we find that treatment by the Finsen light, hot sand bags and the x rays, all of which cause some determination of blood to the affected part, will in a considerable proportion of cases effect a cure; efforts are here made to provoke the lesions to greater activity; in addition, a certain number of cases have been cured by the injection of tuberculin.[3] It has also been proved that in some cases where persons suffering from lupus have developed active disease in the lungs the lupus has cleared up completely before death.[4]

We will now pass on to consider tuberculosis affecting joints. It has long been taught that the best method of treating tuberculous joints was by immobilisation on a splint. We may now inquire how the necessary conditions for cure are fulfilled in the case of joints. The disease may be fairly acute or very chronic; in the former event too much and in the latter too little tuberculin will be produced. To overcome the former trouble we may try immobilisation and to remedy the latter fault we may employ active movement, passive movement, or massage. Although it may be necessary to place the affected limb on a splint this will not prevent the patient from taking exercise with his other limbs; the necessary muscular components will therefore be produced. Tuberculosis of joints is, as a rule, nothing like so chronic as tuberculosis of the skin; we should, therefore, expect this kind of tuberculosis to be fairly amenable to treatment, and this is found to be the case in practice.

Before passing on to consider tuberculosis of the lungs it becomes necessary to define what is meant by an acute case; many of the cases which come under the present definition would not be regarded as acute by the majority of practitioners. By acute is meant any case which does not exhibit a perfectly normal temperature. In order to discover accurately the temperature it is absolutely necessary that the patient should be put to bed and the temperature taken in the rectum at 8 A.M., 12 noon, 6 P.M., and 8 P.M.; no temperature is regarded as normal which does not fall at least as low as 97·9° F. (36·6° C.), better 97·8° F., in the morning and which does not rise above 99° F. (37·3° C.) all day when the patient is kept absolutely at rest, including silence. It is assumed, for the purpose of argument, that if the temperature rises higher than this auto-inoculation is too considerable or too frequent, or both.

In tuberculosis of the lungs the amount of tuberculin may be too large—this is what occurs in acute cases. How, then, can we limit the amount of auto-inoculation? It has been found from clinical experience that the only sure way of limiting the amount of auto-inoculation is by limiting the movement of the foci of disease in the lung; this can only be accomplished by resting the lung as a whole; furthermore, the lungs, like the heart, can only be approximately rested, and then only by reducing the movements of the body to a minimum; in order, therefore, to prevent mechanical disturbance of the diseased part we

[2] Allen: Vaccine Therapy and the Opsonic Method of Treatment, p. 15, H. K. Lewis.

[3] The Treatment of Lupus, &c., Tod and Western, Practitioner, vol. lxxx., No. 5, p. 703.

[4] Tuberculosis in Infancy and Childhood, edited by Kelynack. Baillière, Tindall, and Cox. P. 158.

must rest the patient absolutely in bed; in addition, as talking causes considerable acceleration of respiration, we must keep the patient silent, and coughing must be reduced to a minimum, if necessary, by the administration of opium or one of its efficient derivatives. It will be observed that although excessive auto-inoculation be checked these patients are deprived of the substance derived from the movement of muscle. We may, therefore, expect to meet with difficulties in treating these cases, and the absence of the factor may account for the long periods it is sometimes found necessary to keep these patients recumbent. If the substance referred to has anything to do with raising the blood pressure the administration of adrenalin, or beef-tea, or raw meat might be expected to be beneficial. Massage of the limbs I have thought to be useful in some cases.

The difference, therefore, in behaviour of the different varieties of tubercle depends largely on a question of movement; the lungs and the heart being the only organs which cannot be rested absolutely can only be rested approximately by cessation of all movements. In tuberculosis of the pleura a new factor comes into play, the limitation of movement present in all pleurisies and very persistent in its action. Here a natural splint is provided which may be the chief reason why tuberculosis of the pleura usually runs such a benign course; auto-inoculation because of this is reduced in amount, and the diseased part is kept fairly still, muscular exercise not producing such disastrous results. When effusion takes place the rest of the part is more complete and a cure occurs fairly frequently after a moderate effusion.

In cases where hæmoptysis is the first sign it will usually be found that a vessel has given way in the middle of a comparatively small focus of disease at one or other apex. There is usually a considerable amount of fibrous tissue round the lesions, making delimitation by the x rays easy. These people are often in fair health at the time of the hæmorrhage. It is probable that in many of these cases but for the hæmorrhage the disease would have gone on to complete healing. Most of the obsolescent tubercle found when patients have died from other affections probably represents potential hæmoptyses, which fortunately never occurred. The slight constitutional symptoms from which these patients suffer lead us to infer that very little tuberculin is formed in the lesion, and what is formed finds great difficulty in reaching the general system owing to the fibrosis; in addition a small focus surrounded by dense fibrous tissue will undergo very little mechanical displacement even during active respiration, and therefore the disease is not likely to be provoked into activity by exertion, unless very severe or during excessive movements of the arms, as in digging. The substance derived from muscular action will, as a rule, not be wanting. The resemblance between these lesions and lupoid ulceration of the skin will occur to everyone. The behaviour of many of these cases is similar to lupus, with the difference that the lungs are a much more vascular organ than the skin. The disease often progresses slowly, the lung being gradually eaten away; it may take years for any considerable destruction of lung to take place. The hæmorrhages are often recurrent, in the intervals the patient enjoys excellent health. This class of case may prove difficult to cure, but is, as a rule, easy to benefit, and in any event their course is often prolonged; this may be gathered from a study of Tables I. and II.

The next class includes cases of chronic tuberculosis in which treatment has failed—as a rule because sufficient rest has not been prescribed sufficiently early and for sufficiently long periods. There is reason for supposing that chronic cases are largely due to exercising too freely, what have here been defined as acute cases. The chief feature in chronic tuberculosis is the presence of a large amount of fibrosis, which is itself largely determined by antecedent bloodless tubercles. This fibrous tissue cuts off the more or less extensive caseous masses, or when these have been exfoliated the more or less extensive cavities, from what healthy lung tissue remains. We find consequently that these patients are subnormal generally, short of breath, either from destruction of lung tissue or oftener perhaps due to the reduction of the total lumen of the blood channels through the lungs, showing itself as a failing heart. Owing to fibrosis any products of the lesions find difficulty in reaching the general system and constitutional symptoms are largely absent. The tubercle bacilli hidden in the thick walls of cavities are very persistent, being shielded by the fibrous tissue from harm. Owing to the shutting off of a free channel for the tuberculin from the lesions by fibrous tissue they show little sign of spontaneous healing; the disease as a rule tends to creep slowly on, the progress often marked, however, by exacerbations due to infective sputum being sucked down bronchi leading to healthy lung tissue. In time, as a rule, other micro-organisms are grafted on the tuberculous lesions, and they fall into the class of mixed infections.

Before considering the next type it will be well to say something relative to the production of fibrous tissue in consumption. It will be admitted that when fibrous tissue is produced in excessive quantity much crippling takes place, and when its production is progressive it ultimately leads to the death of the patient by destroying the channels of the lesser circulation through the lungs. It has always been taught that fibrous tissue brings about a cure in consumption, and this is no doubt so far true that after the exfoliation of diseased foci their places, as in all other destructive lesions, must be taken by newly formed fibrous tissue; but it is unnecessary for the process to go beyond this stage; it is contended here that if acute cases—and practically all cases are acute to commence with—are exercised too early considerable areas of caseous tubercle are liable to be shut off permanently from the general system and are thus prevented from exfoliation, and if exfoliated, through their magnitude to leave behind them large cavities; with all the deplorable conditions usually associated with such formations a satisfactory cure when this state of affairs has been reached cannot be expected. In those instances where small lupoid patches occur it is true they may be shut off by dense fibrous tissue without much harm being done, and this is probably the *raison d'être* of the cures brought about by large amounts of physical exertion.

Laryngeal tuberculosis has been classified separately because it exhibits in such a remarkable manner the benefits to be derived from rest.

From the above considerations some guidance in the treatment of all cases of tuberculosis may, I think, be obtained. In the first place it must be insisted on that all patients who exhibit even the smallest sign of invasion by the tubercle bacillus must be treated with the utmost rigidity. When people have become seriously ill so much valuable time and valuable lung tissue have been irrevocably lost. The careful taking of the rectal temperature whilst the patient is kept in bed is the most reliable guide. If a patient is allowed to get worse and has never been rested in bed the medical adviser will find great difficulty in justifying his position.

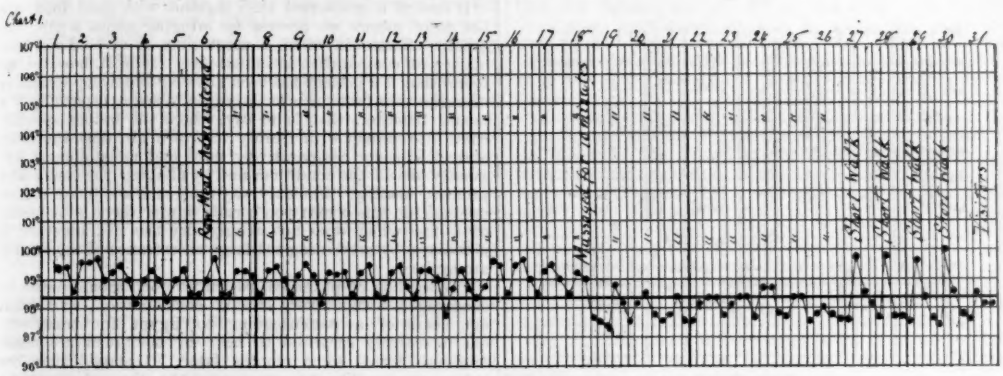
So long as there is any fever as defined above, these patients must be kept at rest; the rest should always be in bed and each patient must have if possible a separate room. A sufficiency of fresh air can always be obtained in the rooms of an ordinary sanatorium. In my opinion nothing but harm can be done by putting these patients out on verandahs or by letting them lie about in long chairs; rest in bed is essential. Absolute rest in bed should be insisted on when, during rest in bed including silence, the temperature rises above 100·4° F. (38° C.) during any part of the day. As a rule it will be found that if these principles are enforced rigidly the actual period of solitary confinement will be very much reduced. When the temperature does not rise higher than 100·4° F. (38° C.) during the day I usually allow these patients to visit the lavatory and perform their toilets generally, in the hope that the substance derived from muscle may be produced in this way; otherwise they are kept in bed until their temperature sinks as low as 97·8° F. (36·5° C.) the first thing in the morning. It is extremely important that the temperature should be low before breakfast, and this should always be taken in the rectum, any other way being quite unreliable. The following case illustrates well the method pursued and also illustrates the danger these patients are in if walking about.

I visited Miss X about three weeks before she was admitted to a sanatorium. She had been ill for about four months, the trouble commencing with a cough and night sweats; she had, however, done her work until about a month before I saw her. She had at that time come to be medically examined and her doctor on first seeing her remarked on her healthy appearance. He found, however, on examining her chest considerable signs of disease at one apex and at once advised her to go to a sanatorium. This she decided to do, though opposed in the first place by her friends. When I visited her she was supposed not to be

feverish and was pottering about all day, and in addition was playing the piano and singing solos. These latter amusements she gave up at my request, though she informed me that she was not feeling ill. She was well nourished, but signs of considerable activity were discoverable at one apex and her sputum was loaded with tubercle bacilli. The subjoined chart gives a very fair account of her progress during her first month at the sanatorium. It will be observed that according to the standard here set up she was feverish when first admitted and the fever continued for 18 days, and it is remarkable, though perhaps a coincidence, the way in which her fever fell after the first massage. Raw meat alone, as seen from the chart, had apparently no effect by itself. It may be well to state here that until her temperature fell to normal she was kept strictly isolated and discouraged from coughing. She lost her tubercle bacilli in three months.

Tuberculosis when attacking the pleura usually runs a much more benign course than elsewhere, a cure often taking place by means of such measures as are appropriate for acute pneumonia. We should therefore be cautious in ascribing a cure in these cases to any form of treatment which may be adopted. These patients should, like the former class, be kept in bed until all fever has subsided and then exercised very gradually. When these patients are rested completely, it will generally be found, as also in acute cases, that the breath sounds remain feeble for a considerable length of time, indeed, as a rule, until exercise is taken; they usually return more speedily after exercise has commenced. This, however, is not a reason for getting them up quickly, but rather the reverse, for feeble breath sounds are a sign that the lungs are at rest, and rest is the most powerful factor in the promotion of healing.

FIG. 1.



Temperature chart during the first month in the sanatorium.

I visited William Y——, aged 18 years, three weeks before he was admitted. He had been unable to work for three months. The illness had commenced with cough and sickness and he had night sweats for a fortnight, during which time he remained in bed. Since then he had been walking as much as seven miles a day and taking rides in tradesmen's carts and was not supposed to be feverish. Tubercle bacilli in clumps were present in his sputum. There were considerable signs of activity in at least two lobes. Both vocal cords were slightly affected. He was feverish, like the last patient on admission. He was accordingly put to bed and secluded and was given raw meat and massaged. His temperature did not become normal until 23 days after admission; on the nineteenth day it was found necessary to restrict his reading as this was keeping up his temperature. He lost his tubercle bacilli three months after admission. Space will not allow his chart being given.

I may say that both these patients were exercised with extreme care when first allowed up.

A case recently came under my care of a young man who had been confined to bed for three months without any fall in temperature; he was also steadily losing weight; I placed him on rigid silence and secluded him and his temperature fell to normal in ten days. I have at present a patient who had been kept in bed for about three months, with the result that his temperature had fallen from 102° F. (39° C.) to about 100·4° F. (38° C.), and there it stayed for some weeks; he was then kept absolutely silent and in 24 hours his temperature had fallen a degree Fahrenheit; from that point he continued steadily to improve and is now walking as much as eight miles a days without harm.

It is in my opinion extremely important that the temperature should fall at least as low as 97·8° F. (36·5° C.) in the morning before breakfast before the patient is allowed to get up. It is true that in a good many cases the temperature will fall ultimately, even supposing the patient be allowed to walk about, but it does not follow that he will be in as favourable a condition for cure as when it falls during rest in bed: in the former case it is probable that more bloodless tubercle, which necessarily means more destruction of lung, will have been laid down.

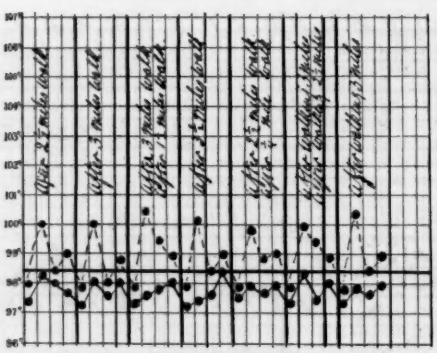
Cases commencing with an initial hæmoptysis are, as a class, the cases which exhibit the least fever and consequently require the least rest. Judging from the tables at the beginning of this paper they represent about 20 per cent. of the total number of cases. It will be found, however, that only a very small proportion of phthisical patients can dispense with rest in the first instance, for of those starting with hæmorrhage some will be found to be febrile; in my opinion, most, and all require some rest in bed at the commencement of the bleeding. The fever in this class of case as a rule subsides fairly rapidly. A parallel has already been drawn between these cases and lupus of the skin; now the main characteristic of lupus is its extreme chronicity, due to a comparatively non-virulent infection. These cases are generally comparatively non-febrile, and in order to promote a cure it seems advisable that some form of fairly violent exercise should be prescribed in order that either the indolent tubercle may be provoked into activity and so bring about a cure, or that the formation of considerable fibrous tissue around the comparatively small lesion may be facilitated; this can most readily be done by making the patient dig, as the movements of the arms are more likely to cause some disturbance of the focus in the lung than mere walking. Obviously this is an experiment fraught with some risk and these patients require very careful supervision; it has been carried out with success on a large scale by Dr. M. S. Paterson at Frimley.[5] It may be noted that the temperature in many cases of initial hæmoptysis shows no sign of going higher than 99·6° F., even after a long spell of hard work. These temperatures should, however, always be taken in the rectum immediately after the work and should not be allowed to rise higher than 100·4° F. (38° C.), which should sink with half an hour's complete rest to nearly 98·6° F. (37° C.). How unreliable taking the temperature in the mouth may be can be inferred from the accompanying chart where the temperatures after exercise were taken simultaneously in the mouth and in the rectum.

It should be remembered that the temperature of normal

[5] Graduated Labour in Pulmonary Tuberculosis, by Marcus S. Paterson, THE LANCET, Jan. 25th, 1908, p. 216.

persons rises considerably after exercise, the amount varying with the severity of the exercise and the heat of the day. The great thing to do in treating chronic cases is to prevent their occurrence; these cases are at present only too numerous, and I fancy colour the ideas of many medical men when considering consumption. Unfortunately, some of these cases are always with us, though not all for long. Chronic cases, it should be remembered, probably are the most potent cause in the handing on of the disease, as tubercle bacilli shut away from healthy lung tissue, in the walls of cavities, by means of abundant fibrous tissue persist indefinitely and when expectorated are liable to infect the healthy. It is urged here that the formation of chronics can largely be avoided by the early, and sometimes prolonged, resting of cases of consumption. It will often be observed that patients who at first exhibit the most violent constitutional symptoms if they eventually survive

FIG. 2.



Interrupted lines = rectal temperature. Continuous lines = mouth temperature.

ultimately make the most perfect recoveries; this is probably due to the severity of their symptoms, making it absolutely necessary that they should be confined to bed. It may, of course, happen that if the tubercles in an early case are more widely scattered, with considerable areas of intervening healthy tissue, more constitutional symptoms may be produced than if the same number of tubercles were packed close together, and that in the former case from anatomical considerations it will be easier for the lungs to deal with the trouble; whilst in the latter, owing to the massing of the tubercles, the way is paved for the production of chronic disease. When the patches of disease are not too large these patients may ultimately make good recoveries and are to be classed with cases commencing with hæmoptysis. Should there occur any exacerbation of the disease, these patients must be treated like the acute cases before mentioned.

The treatment of tuberculosis of the larynx depends largely upon resting the vocal cords by insisting upon silence, and every effort must be made to diminish the cough, if necessary by means of large doses of opium or its efficient derivatives. This silence may have to be enforced for months. The opium here acts as a splint to the larynx. It may be here observed that coughing is one of the most harmful practices that a consumptive can indulge in, and when constant must always be checked. These patients ought never to be informed they are taking opium. Too frequent examinations of the throat should be avoided and acute cases should be examined very sparingly and never be asked to cough. Coughing may easily cause dissemination of the tubercle and can answer no useful purpose, as it is preferable to leave the differentiation of any crepitations that may be present to a more safe and convenient season. So soon as the temperature falls laryngeal patients may be allowed to take exercise.

If the above suggestions are carried out it will in almost all cases mean that the consumptive patient must first of all be rested, and it should be remembered that rest means something far more than is ordinarily understood by that term: it means as complete an approximation to absolute stillness obtainable, and for this reason, that whereas in ordinary injuries to limbs and the like, it is possible to keep the part at absolute rest by means of suitable splints, in the case of the lungs this is quite impossible, and rest can only be obtained approximately by absolute recumbency, together with abstention from talking, laughing, coughing, and so on. Even rest such as this does not rest the lungs so much as might appear, as anyone can realise for themselves by noting subjectively the actual movements of the thorax when lying as quietly as possible in bed. It may be remarked here that the strain of the uncontrollable and useless cough peculiar to, and coincident with, the first laying down of tubercles in the lung before there is any expectoration, is a sufficient strain on the laryngeal structures without having superadded the strain of talking. As a rule, it will be found impossible to carry out this method of treatment except in a properly constructed sanatorium with single bedrooms, and where the staff is sufficient to allow any or all of the patients to lie in bed if necessary.

If rest of a graduated kind together with good food, are the chief means we possess for bringing about a cure, the precise climate in which a sanatorium is erected will be a matter of comparative unimportance. It will, however, be found that if a patient has been allowed to develop extensive disease or has bronchitis or laryngeal disease, especially if a mouth breather, that is to say, where the lesions speedily come into contact with freshly in-drawn air, that wintering abroad in some comparatively mild and moist climate will greatly benefit the condition, and by allaying the cough may promote healing. The only way that such a climate can be produced in this country on certain winter days is by means of a fire which does not unduly dry the air, together, if necessary, by preventing too large an entrance of the outside atmosphere.

The sending of phthisical patients abroad should never be encouraged without very careful consideration, and when one hears of a patient going to Egypt for treatment, one is scarcely surprised to hear of his premature death in South Africa some months later. I should therefore before closing like to recommend to the more wealthy sufferers from this disease, who in some respects resemble Naaman the Syrian, the advice of his servants when he said, "Are not Abana and Pharpar, rivers of Damascus, better than all the waters of Israel? may I not wash in them, and be clean?" "And his servants came near, and spake unto him, and said, My father, if the prophet had bid thee do some great thing, would'st thou not have done it? how much rather then, when he saith to thee, Wash and be clean?" Rest and be cured.

Ayrshire Sanatorium, New Cumnock.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

MEDICAL SECTION.

Auto-inoculation versus Hetero-inoculation.

A MEETING of this section was held on March 23rd, Dr. T. H. GREEN being in the chair.

Mr. E. C. HORT read a paper entitled "Auto-inoculation *versus* Hetero-inoculation in the Treatment of Established Infective Disease in Pyrexial and in Apyrexial Conditions, as controlled by (*a*) Clinical Observation, and (*b*) Estimation of the 'Antipyretic' Index." He said in regard to immunity and infection that the practice of inoculation with immune serums and bacterial vaccines, as at present employed, was based on the assumption that in fighting infective disease the tissues had only to contend against extracellular forces such as bacteria and their products. No provision, therefore, whatever was made for antagonising such intracellular enemies to the tissues as autolytic and other enzymes and the products of their activity. This neglect of the intrinsic factors in infection explained the failure of bacterial vaccines in tuberculosis and other serious infections, and the futility of expecting such purely bacteriotropic bodies as opsonins to afford a satisfactory basis for gauging immunity response. In 38 out of 51 opsonic estimations of tuberculous serums no two observers could agree as to what the opsonic index actually was. Opsonic estimations were also unnecessary in

pyrexial cases, because if temperature charts were examined in the way he suggested they practically became immunity curves. All cases of tuberculosis with fever fell into one of three main types of curves—(1) cases with response greater than intoxication; (2) cases with intoxication greater than response; and (3) cases with intoxication and response equally balanced. In cases exhibiting Curve 1 the prognosis was excellent owing to effective spontaneous auto-inoculation. In such inoculation was unnecessary. In cases exhibiting Curve 2 the prognosis was bad and inoculation dangerous. Some cases exhibiting Curve 3 were ideal subjects for inoculation, but as tuberculin injection made no provision for meeting intracellular needs it ought to be condemned in cases with much tissue change and fever. Auto-inoculation, on the other hand, was the best possible treatment for such cases if controlled in the way pointed out. Whenever cure of tuberculosis and other infections naturally occurred it was only by spontaneous auto-inoculation that the disease was arrested. This arrest was brought about by restraining all the factors in infection, the intracellular as well as the extracellular. Charts showing successful treatment of pyrexial cases of tuberculosis were exhibited. Variations of the antitryptic index of tuberculous and other serums were then referred to and it was claimed that in apyrexial cases the method of estimation introduced by Golla would prove to be of great value. The fact that the antitryptic index underwent variation in diseases where cellular changes were the chief factors as distinguished from those in which the bacterial element was predominant in which it was also raised, afforded proof to some extent of the views he propounded. A list of diseases in which such variations occurred was given.

Dr. D. LAWSON (Nordrach-on-Dee) said that the temperature by itself was not a trustworthy guide to the advance of tuberculosis and he protested against the temperature chart being exalted into a fetich; he advocated the consideration of broad clinical facts and a wider basis of observation.

After Dr. F. PARKES WEBER had spoken Mr. HORT replied.

OBSTETRICAL AND GYNÆCOLOGICAL SECTION.

Pernicious Vomiting of Pregnancy.—Primary Ovarian Actinomycosis.—Primary Carcinoma of the Vagina.

A MEETING of this section was held on March 12th, Dr. HERBERT R. SPENCER, the President, being in the chair.

Dr. R. DRUMMOND MAXWELL read the clinical account of a fatal case of Pernicious Vomiting of Pregnancy in a primigravida, aged 26 years. The chief features of interest in the case lay in the difficulty of diagnosis, since the patient after admission to hospital ceased vomiting, and there was only the history of severe vomiting at home, unassociated, however, with marked wasting. The toxic nature of the case did not reveal itself in any characteristic alteration of the urine; there was no albuminuria; the only ominous signs on admission were drowsiness and a very rapid weak pulse; there was no jaundice. The patient passed successively through stages of restlessness, delirium, mania, and final coma. A necropsy revealed hyaline degeneration and necrosis of the central cells of the hepatic lobules, the kidneys also showing a severe parenchymatous nephritis; sections of both tissues were shown under the microscope.

Dr. F. E. TAYLOR and Mr. W. E. FISHER communicated notes on a case of Primary Ovarian Actinomycosis, a full account of which will be found in THE LANCET of March 13th, p. 758. They pointed out that actinomycosis of the ovary constitutes one of the curiosities of gynæcology, only six cases of this condition being on record. In none of these had the ovary been the primary seat of infection, but had been infected by extension of the disease originating either in the intestines or in the vagina, uterus, or Fallopian tubes. The patient was a single woman, aged 34 years, and was admitted into the Chelsea Hospital for Women in June, 1908, complaining of abdominal pain. The periods were very irregular and very profuse. Pain was first noticed three and a half years before and soon after she became troubled with night sweats, which had continued up to the time of admission to hospital. The right ovary was found to be enlarged. The patient declined operation at this time. Pain and discomfort continued intermittently and at one time she passed blood and pus in the urine. Marked anæmia and loss of flesh finally led the patient to enter the hospital. She was then found to have a tumour of the size of a child's head, which filled the pelvis. There was no tenderness, but the tumour was fixed. The temperature was raised. The tumour was removed, when it was found to be very adherent to the surrounding parts. Both Fallopian tubes were occluded and bi-lateral salpingo-oöphorectomy was performed. The patient for a time was very ill, but she ultimately recovered and left the hospital with a small sinus. Shortly after a large abscess burst and a large amount of pus escaped through the sinus. The patient at the present time is fairly well with hardly any discharge. The microscopical examination showed masses of streptothrix.—Professor R. F. C. LEITH said that the specimen shown was a good example of ovarian actinomycosis caused by the streptothrix actinomyces, but caution must be exercised before accepting the contention of Dr. Taylor and Mr. Fisher that the disease was primary in the ovary. He referred to a case investigated by him in which the ovary and part of the tube were affected. The rectal wall was thickened and in the dense fibrous adhesions binding it to the ovary there were plentiful actinomyces growth. Colonies were also found in the rectal wall and in the wall of the descending colon. His interpretation of this case, though still *sub judice*, placed the primary disease in the intestine, from which it had spread to the ovary, the intestinal lesions subsequently cicatrising and healing. He ventured to suggest that a similar interpretation might be placed upon the present case. One of the chief characteristics of this disease was the formation of a local lesion at or near the site of entrance and a spread therefrom by direct continuity of tissue. Spread by the blood stream did take place, particularly the portal blood stream, but this was characteristically a late method of extension.—Dr. W. S. A. GRIFFITH and Dr. T. G. WILSON also discussed the case.

Dr. H. RUSSELL ANDREWS read notes of a case of Primary Carcinoma of the Vagina, in which the uterus and the whole of the vagina were removed. The patient, a multipara, aged 62 years, had a carcinomatous ulcer, the size of a two-shilling piece, high up on the posterior vaginal wall. The cervix was free from carcinoma. The whole vagina was dissected out from below, and removed together with the uterus. At an early stage of the operation the vagina was converted into a closed bag by clamping with forceps bent at a right angle, with the object of preventing infection of the raw surfaces by carcinoma cells. The peritoneal cavity was closed by sutures, and the cavity between the rectum and urethra became obliterated. The patient was quite well when last seen in February, 1909, 18 months after operation.—The PRESIDENT and Dr. F. J. MCCANN described similar cases upon which they had operated. Dr. McCann's patient was free from recurrence when last seen four and a half years after the operation. Dr. McCann had seen five examples of primary cancer of the vagina.—Dr. H. MACNAUGHTON-JONES referred to another case of primary carcinoma of the vagina. Seeing the very few cases of primary carcinoma of the vagina recorded in British literature, he had sought for some statistics from abroad. From all these sources he had only been able to collect 23 instances of primary disease.—Dr. A. H. N. LEWERS said he was surprised to find that some of those present considered this condition very rare. He had himself seen, speaking from memory, at least 15 or 20 cases of primary carcinoma of the vagina. In none of them, however, was the disease at a sufficiently early stage to induce him to attempt a radical operation, and he had therefore been obliged merely to scrape and cauterise the growth in such as had seemed to require some active treatment.—Dr. RUSSELL ANDREWS replied.

OTOLOGICAL SECTION.

The Problem of Vertigo.

A MEETING of this section was held on March 6th, Dr. PETER MCBRIDE, the President, being in the chair.

Mr. SYDNEY R. SCOTT read a paper entitled "The Problem of Vertigo: Some New Data obtained in a Research into the Functions of the Semicircular Canals in Relation to Movements of the Eyeball in the Human Subject." He gave an account of his observations on this matter based upon an examination of nystagmus and eye-movements associated with giddiness in a large number of patients with diseases of the

ear. He had adopted the caloric and rotation tests introduced into clinical otology by Robert Barany and had had opportunities of testing cases both before and after the internal ear had been destroyed by disease or operation. Various forms of nystagmus were recognised and the labyrinthine type was fully described together with Mr. Scott's own views of its mechanism. He had found on completion of his research, which extended over a long period, that his observations confirmed those of Mach, Breuer, and Barany, and he presented some new hypotheses to explain the phenomena observed. The mechanism of the stimulus in cases of nystagmus associated with labyrinthine fistula, whether spontaneous or induced, by metal compresion or other means, was described. Some new data were presented in connexion with so-called ablation nystagmus—i.e., persistent nystagmus of true labyrinthine type after removal of one labyrinth, the other labyrinth being normal. Mr. Scott asserted that he had been able to arrest this form of nystagmus by compression of the common carotid artery. The mechanism of the stimulus was accounted for on the assumption of impaction waves from the internal carotid artery in the carotid canal being transmitted to the labyrinth and ampullary apparatus of the semicircular canals. The hypothesis was put forward with a number of facts supporting it and Mr. Scott submitted that if his observations could be substantiated by competent observers the hypothesis would have a much wider application than he had dealt with in his communication. The paper was illustrated by serial sections of the human labyrinth prepared by Mr. Scott and displayed by means of the epidiascope. A demonstration was given of glass models representing the human membranous semicircular canal and utricles.

Sir VICTOR HORSLEY led the discussion and said that in Mr. Scott's investigations and views he conceived a new basis for considering some of the many obscure features of vertigo. He (Sir Victor Horsley) was interested to find his own observations on monkeys substantially confirmed by Mr. Scott's work on the labyrinth in children and he gave the meeting an interesting account of certain forced movements of the head which followed operations on the labyrinth in apes. He hoped that Mr. Scott would give an account some time of head movements associated with nystagmus in human subjects.

The following members took part in the discussion: the PRESIDENT, Dr. URBAN PRITCHARD, Dr. J. DUNDAS GRANT, Dr. ALBERT GRAY, Dr. HENRY J. DAVIS, Mr. E. B. WAGGETT, Mr. C. E. WEST, and Mr. WHITEHEAD, and Mr. SCOTT replied.

MEDICO-LEGAL SOCIETY.

The Difficulties and Abuses of the Workmen's Compensation Act.

AT the meeting of this society which took place on March 23rd, Mr. Justice WALTON, the President, being in the chair, an adjourned discussion took place on Mr. A. S. Morley's paper, "The Difficulties and Abuses of the Workmen's Compensation Act." After Mr. MORLEY had given a brief *résumé* of his paper, Dr. R. J. COLLIE opened the discussion with a paper detailing in strong terms the abuses under the Act known to exist, quoting various authorities in support of his views, and stating that the insurance companies were seriously considering the question of medical examination of every person underwritten by them before accepting the risk of insurance. If that took place it was not difficult, said the speaker, for the most unimaginative to see that the ranks of the unemployed would be augmented by tens of thousands. Sick benefit societies were feeling severely the strain produced by the demoralisation of unduly prolonged sickness and of deliberate malingering. Unless speedily amended the Act as it now stood, instead of being the Magna Charta of the working man, would inflict grave hardships on a very large proportion of the working men of this country. In considering the causation of the abuses Dr. Collie stated that some expert medical witnesses relied too much on the claimants' statements and that others were untrustworthy because their fees depended upon the issue of the case. Both these points he made in very clear and strong language. With regard to the remedy, he said that if two words only in the first schedule of the Act were altered there would be a huge slump in bogus cases, in hard swearing, in prolonged litigation, and in the degradation of the working classes. Section 15 of that schedule enacted that a county court judge might refer the matter to a medical referee "on application being made to the court by both parties." He suggested that the words "either party" be substituted for "both parties." That would make all the difference in the world. It was well known, and very significant, that neither a workman nor his solicitor would agree to remit a case to the medical referee. Further, if Section 5 of the second schedule, which enacted that "a judge may, if he thinks fit, summon a medical referee to sit with him as an assessor," were altered to read, "a judge shall, on demand of either party, summon a medical referee to sit with him as an assessor," then much of the wickedness which he had endeavoured to expose would be a thing of the past.

Dr. F. J. SMITH thought that too much weight was given to the class of witness known as the medical expert. The position of a medical referee would be a much more independent position than that of the medical expert.

His Honour Judge SMYLY said that no doubt there were many doubtful cases under the Act, but, on the other hand, there were a vast number of cases that never came into court, being amicably settled. If that was considered it would be found that litigation under the Act was not so great in proportion as most people thought, and consequently those cases which were taken to court were the doubtful and suspicious ones and required looking into. If a medical referee was present in every case it would be a great assistance. He had suggested that medical questions should go to the medical referee before coming to the judge. To both workman and employer there would be a great saving of expense.

His Honour Judge BRAY thought that in many cases a medical man would be a great assistance to a judge as assessor, because he had to admit that one might be taken in by some of the expert medical evidence. On the other hand, there were cases in which it would be a farce to accept absolutely the opinion of the assessor and to disregard the medical evidence.

His Honour Judge HOWLAND ROBERTS stated that there were many cases of very great difficulty in which there was a conflict of evidence given by apparently respectable and experienced medical men. He had received great assistance from a medical assessor sitting with him, but it would not do for a judge to lean entirely upon a medical assessor, for to some extent he should be guided by the medical evidence.

Dr. S. B. ATKINSON, Mr. M. J. FINUCANE, Mr. W. E. SINGLETON, and Mr. W. V. BALL having spoken,

Mr. Justice WALTON said that since he had been a judge he had done all he could to promote trial with assessors, not merely in medical cases, but in other cases where scientific questions arose. Judging by what he had heard that evening it appeared to him that it would be a better arrangement if county court judges were able to appoint a medical referee or medical assessor—the two were different although working somewhat in the same direction—on the application of either party. With the county court judges present he agreed that there were a great many doubtful cases that came before the courts. Often it was extremely difficult to decide which was the right view, some witnesses honestly taking one view and others the opposite. Moreover, some extraordinary claims were made when it was quite evident that no injury had been sustained at all in the ordinary sense.

The meeting passed the following resolution:—

That the council be asked to appoint a committee to consider and report what action, if any, the society should take in the matter of the alleged unsatisfactory working of the Workmen's Compensation Act.

The proceedings then terminated.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF PATHOLOGY.

Exhibition of Specimens.

A MEETING of this section was held on March 12th, Dr. A. R. PARSONS, the President, being in the chair.

Dr. JAMES LITTLE exhibited a specimen of Bronchiectasis from a man, aged 25 years. He was taken to hospital after a fortnight's illness at home. He was extremely

short of breath and livid. Later he became breathless to the last degree, and had the peculiar hue which Dr. Hudson used to say was a fatal hue in heart disease—that due to a mixture of unaerated blood and jaundice. He lived three days afterwards. His temperature was never elevated and his pulse was always feeble. Six years previously, when in hospital with scarlet fever, it had been noticed that his heart was beating considerably to the right. When Dr. Little had examined him he found the sounds over the back of the right chest were those of large cavities in the lungs. Over the lower lobe of the left lung there was dulness on percussion. At the necropsy the heart was found dragged to the right side by pleural adhesions. Pneumococci were found in the sputum during life. The lower lobe of the left lung was extremely congested and the cause of death appeared to be pneumonia. The right lung presented immensely dilated bronchial tubes in every part. The auriculo-ventricular orifices of the heart were much dilated. The left ventricle was considerably dilated and hypertrophied. The right ventricle was extremely dilated and somewhat hypertrophied. The patient brought up a large quantity of purulent sputum, but it was not offensive in smell, which was very strange, as he could hardly conceive a lung less able to expel sputum before it decomposed.—Sir JOHN MOORE said that if the bronchial tubes were dilated throughout the entire length, there was less likelihood for putrefaction and consequent fœtor to occur than if dilated through only a portion of their extent.

Dr. J. B. COLEMAN exhibited a Frontal Sarcoma from the brain of a woman, aged 25 years. The symptoms had lasted for six months and had given no localising indications. The tumour had been circumscribed.

Mr. W. I. DE C. WHEELER exhibited organs from a case of Polyserositis. The patient, a man aged 34 years, had been sent from Galway with a large ascites. He was fairly healthy and had no other symptoms. Two years previously he had had his right pleura tapped and when he went to hospital a small left pleural effusion was found and tapped. The ascites increased in hospital. Ten days after admission the abdomen was opened. Covering the liver there was a thick capsule, and over it there were little depressions as if peas had been pressed into the surface of it. The liver was not cirrhosed. There were adhesions between the great omentum and the abdominal wall. The Talma-Morison operation was performed. No signs of tubercle were found, and there was no growth of any kind. The operation seemed to relieve the ascites and he lived eight weeks. He was only tapped once after it, and a very small quantity of fluid was found.—Dr. W. G. HARVEY described at length the post-mortem appearances of the viscera. The organs, with the exception of some congestion and parenchymatous degeneration in the liver and kidneys, were healthy, while their serous coverings were immensely thickened and such serous cavities of the body as were not totally obliterated were distended with fluid. There was absolutely no evidence of tuberculosis either in the sections or as a result of inoculations of guinea-pigs with the fluid.

Dr. J. F. O'CARROL and Dr. H. C. EARL exhibited and described specimens from a case of Pharyngeal Diphtheria and of Heart Disease.

SECTION OF SURGERY.

Exhibition of Cases and Specimens.

A MEETING was held on March 19th, Mr. E. H. TAYLOR being in the chair.

Mr. P. J. DEMPSEY exhibited a case of Lateral Pharyngotomy. The patient had consulted him for hoarseness. He had no pain, but his voice got tired more easily than it ought, and he had a sensation of something in his throat. On examination, by merely depressing the tongue on the right side the beginning of a small pear-shaped swelling was to be seen, corresponding almost identically to the posterior pillar of the fauces. The growth was found to extend down into the epiglottis. On palpation there was evidence of fluid and it appeared to be a branchial cyst. The patient, who had to use his voice in preaching, decided to have an operation. If the cyst were branchial it would probably have diverticula in various directions and could not be got at from the inside. He therefore thought it best to take it away from without. The operation was performed on Nov. 26th as if it were a lateral pharyngotomy, although the pharynx was not opened. When he opened the cyst about two tablespoonfuls of clear fluid came out. The wall of the cyst was curetted and packed with gauze, which was kept in for 48 hours and then removed and a drainage-tube inserted. The tube was kept in for about a week. No fluid came and there were no signs of the cyst refilling. The recovery was uneventful. The patient had pain on swallowing after the operation which disappeared in a few days. He had no trouble since with his voice.

Mr. R. H. WOODS exhibited a case of Extirpation of the Larynx for Carcinoma, with new apparatus for voice production. The patient, a man, aged 42 years, had consulted him two months ago complaining of pain in swallowing. On examination there was a large tumour, occupying the right half of the larynx and extending up to the middle line, which proved on microscopic examination to be a squamous carcinoma. Eight weeks ago, assisted by Mr. Taylor, he opened the region of the carotid sheath and dissected out obviously carcinomatous glands. The glands were adherent, and a couple of inches of the internal jugular vein were excised on the right side. After a preliminary tracheotomy the larynx was opened, and as there was little chance of a hemilaryngotomy curing the case, the whole larynx was extirpated. The trachea was sutured to the skin and the sac of the pharynx completely cut off from communication with the respiratory tract. In order to enable the patient to speak it occurred to him that he might be able to convert the sound made by a reed into speech. Accordingly he fixed a reed in a tube. By putting it into the nose and dropping it over the soft palate, and by putting the other end into the trachea he was able to blow and make the reed vibrate. A valve was used to take in the air and when he had his chest full he put his finger to the end and the air was pressed into the tube. Mr. Woods then inserted the instrument and the patient, after a salutation to the section, counted from one to ten.—Mr. P. DEMPSEY, Mr. W. L. MURPHY, Mr. TAYLOR, Mr. A. J. M. BLAYNEY, and Mr. H. STOKES discussed this very instructive case, and Mr. WOODS, in replying, said that before doing the extirpation he thought it wise to give the patient an antistreptococcus vaccine so as to raise his opsonic index, and his temperature only rose to 100° F. for two days and then fell to normal. This was, in the circumstances, remarkable, and he thought that some of the credit was due to the preliminary vaccination.

Mr. MURPHY exhibited a Rhinolith removed from a woman.

Mr. TAYLOR exhibited an Ectopic Hydronephrotic Kidney removed from a young woman about a fortnight ago. The clinical symptoms were strongly indicative of appendicitis. On palpation over her right iliac fossa he was able to determine deep fluctuation, and as she appeared to be very ill he decided to operate that evening and to cut down over the fluctuating area with local anæsthesia. He was surprised to reach the parietal peritoneum without any evidence of pus. When he opened it his finger passed over a surface which was bigger than a normal cæcum and he thought that it might be an ovarian cyst with a twisted pedicle. He extended the incision under chloroform, but found no pedicle. He punctured a large swelling which was fluctuating and tense and a quantity of fluid escaped. The tissue at the edge of the opening was evidently renal. He put a tube into the kidney and drained the hydronephrosis, and after ten days removed the kidney, having previously satisfied himself that the left kidney was healthy. The case showed that even where all typical features of appendicitis were present they might come on a case that had nothing whatever to do either with the cæcum or appendix.—Dr. W. S. HAUGHTON, Mr. BLAYNEY, and Dr. G. PEACOCKE discussed the case, and Mr. TAYLOR replied.

Dr. HAUGHTON exhibited a specimen of Sarcoma of the Orbit and Upper Jaw from a girl aged about 28 years. He described the clinical history and the operation which resulted in an uneventful recovery. He also exhibited a specimen of apparent Carcinoma removed from the breast of a man aged 56 years. The diagnosis awaited confirmation by the microscope.

LIVERPOOL MEDICAL INSTITUTION.—A meeting of this society was held on March 25th, Mr. T. H. Bickerton, the President, being in the chair.—Dr. G. G. Stopford Taylor and Dr. R. W. MacKenna showed the following cases: 1. Favus affecting the thighs and legs of a steward from an emigrant

ship. The scalp and other parts of the body were free. 2. Rodent Ulcer treated successfully with zinc ions. 3. Psoriasis of the Face occurring in women. 4. Psoriasis in a man accompanied by Sycosis. 5. Lupus Erythematoides. 6. Syphilitic Pemphigus Neonatorum. 7. Dermatitis following the use of a proprietary ointment. 8. Wax Casts modelled from cases under their own care, illustrating the cutaneous lesions of syphilis.—Dr. J. R. Logan showed a case of Bilateral Asymmetry which he regarded as hypertrophy of the whole of the right side. The child was 15 months old and the difference had been noticed since birth. During the last five months the right side limbs had grown more than the left but the head had become more symmetrical.—Dr. C. E. P. Forsyth read a note on the Presence of Tubercle Bacilli in the Blood in Tuberculosis. The blood of 12 patients was examined. Ten of these were undoubted cases of pulmonary tuberculosis and in all the organism was found in the blood. The blood was drawn from a vein in the arm. In one case phagocytosis was noticed and only in one was there any evidence of mixed infection. None of the cases was a rapidly progressing case nor a case of general tuberculosis. Of the two cases in which no bacilli were found one patient was probably not tuberculous and the other had physical signs of phthisis but no bacilli in the sputum. These cases went far to confirm Rosenberger's observations, for example, as to the use of vaccine therapy, in this disease.—Dr. Henry H. Clarke read a note on Three Years' Experience in the Use of Tuberculin. His conclusions were: (1) That tuberculin was best administered by the German intensive method, the dose being given at short intervals of one to two days, and rapidly increasing up to one to two cubic centimetres of the original solution; (2) that doses given by the mouth had the same effect as when given subcutaneously; (3) that the temperature and clinical conditions were as delicate a guide to treatment as the opsonic index; (4) that new tuberculin (bacillus emulsion) was the most effective preparation; (5) that it should be prepared from human bacilli in dealing with disease produced by these bacilli; (6) to determine the variety of bacillus he recommended von Pirquet's cutaneous reaction; and (7) he considered tuberculin a useful drug but not a substitute for good food and fresh air.—Dr. J. Hill Abram referred to a case which he reported ten years ago in which the patient completely recovered under treatment with tuberculin T.R.; subsequent experience, however, had not confirmed him in its use. He did not consider that inoculation experiments had established a vital distinction between the bovine and human varieties of tubercle bacilli. He advocated a further trial of tuberculin treatment on the German intensive lines.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on March 26th, Dr. B. G. Morison, Vice-President, being in the chair.—Mr. Elmore W. Brewerton read a paper on Convergent Strabismus and its Treatment. He said:—Donders was the first to advance the theory that the onset of convergent concomitant strabismus in children was due to errors of refraction. Accommodation and convergence are normally closely associated, and in hypermetropia an excessive amount of accommodation is necessary for distant vision. There is in such cases, therefore, a tendency to excessive convergence. Children are generally hypermetropic and on this account alone show a slight tendency to convergent squint. Their great safeguard is the development of binocular vision, and this latter has to be acquired, and if anything prevents its acquisition convergent strabismus is extremely probable. Binocular vision in its complete sense is the psychical blending of two slightly dissimilar objects so that an effect of solidarity is given to the object, and its relation to surrounding objects can be appreciated. In examining children with no apparent squint binocular vision should always be tested. If this is present and well developed no permanent squint will ever appear, and if a history of occasional squint be given it is quite certain that the correction of errors of refraction will correct the squint. The squinting eye is commonly amblyopic—that is to say, it has very defective vision without any apparent cause. There can be no doubt that the vision of a squinting eye can deteriorate for want of use, or rather from active suppression of the image, and this must have a depressing effect on the ocular centres. But, on the other hand, when a squint develops before the age of three years it is practically certain that the vision is far short of perfect. As regards treatment of squint, in all cases errors of refraction must be treated under atropine, and when possible binocular training adopted. If after 12 months in the continuous wearing of proper glasses the squint is as bad as ever operation ought to be urged, and to give a fair chance of developing binocular vision the operation must be performed early, preferably about the age of five years. If operation is decided on, the kind of operation must depend chiefly on the amount of squint present: for 15° advancement of one external rectus, for 30° advancement of both external recti, for 45° advancement and tenotomy of one eye, followed a week later by advancement of the other. After every operation both eyes to be tied up for seven days; then both eyes uncovered and glasses put on and atropine used for a further ten days. The later the squint appears the better a chance of good result, because binocular vision has almost certainly been partly developed before the squint commenced. The worst cases are those who began to squint soon after birth.—Dr. Morison showed a man, aged 45 years, with abnormal Valvular Disease, the murmurs being double aortic and pulmonary.

NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY.—A meeting of this society was held on March 11th. A special general meeting preceded the ordinary business, when it was decided that in future the ordinary monthly meetings of the society are to be held at 8 P.M. instead of at 6.30 P.M.—The following cases were brought before the meeting:—Dr. J. D. Wardale: Tumour of the Eye for Diagnosis.—Dr. David Drummond: 1. A Typical case of Acromegaly in a Coal-miner, aged 40 years. Up to 19 years of age he was quite normal, but since the age of 21 he had observed comparatively little change. He suffered from headache, but there was no vomiting or visual defect. There was no sugar in the urine. 2. A male child, aged seven years, who had a Chronically Distended Bladder which occupied the greater part of the abdomen.—Dr. R. A. Bolam: (1) Lupus Erythematosus of the Scalp; and (2) Lupus Erythematosus of the Face and the Hands, complicated by Psoriasis.—Dr. T. Beattie: (1) a case of Staphylococcus Aureus Infection of the Blood treated with a Vaccine; (2) Gonorrhœal Arthritis in a Male treated with a Vaccine; and (3) a case of Osteo-arthritis due to the Gonococcus. The infection dated nine years back. There was a typical osteo-arthritis of the knee-joint.—Mr. H. B. Angus: 1. A man after Recent Removal of the Scapula for Sarcoma. Mr. Angus had left the acromion and coracoid processes, which he thought was an improvement. 2. A patient with an Old Fracture of the Femur with an Unreduced Sciatic Dislocation of the Hip-joint. An attempt was made to reduce it three months later, but the bone was again broken. An open operation was carried out, but it was found impossible to reduce the dislocation, so the head of the femur was removed.—Dr. W. E. Hume: (1) A case of Bulbar Paralysis; and (2) a Cretin, aged 16 years, who presented the appearance of an infant aged two years. The administration of thyroid extract improved it as regards its limited intelligence and the condition of the skin.—Mr. John Clay showed specimens of Excised Gall-bladders. He took a very moderate view of the operation of cholecystectomy and thought that the main indication was a gall-bladder which had a stone impacted in the duct with the presence of clear mucus. He also urged the importance of not removing the gall-bladder if there was any chance of a permanent obstruction of the common bile-duct.—Dr. A. Parkin showed a typical case of Congenital Heart Disease.—Mr. A. M. Martin exhibited (1) a case where a Splenectomy had been performed for Wandering Spleen; and (2) cases after Rupture of the Knee-joint Cartilages.—Dr. George Hall demonstrated a good example of Disseminated Sclerosis.—Mr. W. G. Richardson read an interesting paper upon Post-operative Tetanus.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 19th, Dr. T. K. Monro, Vice-President, being in the chair.—Dr. A. Freeland Fergus showed a number of photographs of cases and a patient on whom he had performed his operation for Ptosis. The operation consisted in the resection of the tarsus and of excision of a large part of it with the suturing of the remaining portion to the occipito-frontalis muscle. With this operation the patient had considerable power both of shutting and of opening the eyelid. He pointed out that the operations of Worth and Harman were essentially good but that they ligatured the lid permanently open. The operation of Hess, although differing in principle from these operations,

also permanently fixed the eyelid in an open position. Pagenstecher's operation was one which he considered should never be performed. Cicatrical contraction by the introduction of thread sutures could, in his opinion, only take place when the sutures were not perfectly sterile.—Dr. W. S. Syme made a communication on Some Points in the Surgery of the Sphenoidal Sinus, based on an examination of 155 adult skulls. The average distance from the anterior nasal spine of the maxilla to the opening of either sinus was 2½ inches, the extremes being 2⅛ inches to 2¾ inches. To the posterior wall the average on the right side was 3⅛ inches and on the left 3 1/16 inches, the extremes being from 2¾ inches to 3¾ inches. In only one-sixth of the skulls was the posterior wall distant less than 3 inches, and in none was the opening distant as much as 3 inches. As a rule the posterior ethmoidal cell did not extend beyond the anterior wall of the sphenoidal sinus. Well-marked osseous septa within the sinus were found in 13 cases. Suppuration in these cavities, he considered, was much more common than was generally supposed.—Mr. J. Hogarth Pringle read a paper on the Treatment of Fractures of the Long Bones. He advocated Bardenheuer's method of extension by very heavy weights, sometimes as much as 35 pounds, applied so as to correct lateral displacement and rotation as well as shortening.

CLINICAL SOCIETY OF MANCHESTER.—A meeting of this society was held on March 16th, Dr. J. J. Cox, the President, being in the chair.—Dr. P. R. Cooper reported a case of Eclamptic Coma occurring three weeks after delivery cured by lumbar puncture. The patient was seen in the first pregnancy and albumin was found in the urine at the sixth month. She had eclamptic seizures at full term and was delivered of a living male child, after which the fits ceased and the albuminuria disappeared. The second pregnancy terminated at seven months and she was delivered of a stillborn child. There were no fits and no albuminuria. Nine days after the patient had some paresis and her mental condition was somewhat clouded. 21 days after confinement she came downstairs, when she vomited and became drowsy. Later albuminuria set in, followed by coma. The usual treatment was followed by no improvement. Lumbar puncture was then performed, from two to three drachms of cerebro-spinal fluid being drawn off, and saline injected under the breasts. Two days later lumbar puncture was repeated, and a further two to three drachms of cerebro-spinal fluid withdrawn. After this the fits ceased and the patient made a gradual recovery.—Dr. E. S. Reynolds made some remarks on the Diagnosis and Treatment of Migraine. He drew particular attention to the more unusual varieties of auræ that might precede the typical headaches. Numbness and tingling in the fingers occurred not infrequently. Transient paralysis of the muscles supplied by the third nerve was a rare form described by Charcot, and a case was cited illustrating this variety. As regards treatment, the synthetic drugs were of paramount importance; antipyrin was usually the most valuable, but some patients responded better to phenacetin, aspirin, or pyramidin. The drugs must be exhibited early in the attack to be efficacious.

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.—A special meeting of this society was held on March 19th to discuss the question of the giving of certificates to hospital out-patients, Mr. R. F. Jowers, the President, being in the chair.—The following motion was proposed by Mr. H. H. Taylor and seconded by Dr. Walter Broadbent, and was passed with only two dissentients:—

That the members of this society do not consider that it is part of the duties of the medical men on the staff of any hospital to fill up medical certificates for out-patients, and, having carefully reviewed the whole matter, they are of opinion that it is not advisable that such certificates should be given.

GUY'S HOSPITAL: THE GULL STUDENTSHIP.—The Gull Studentship in pathology and allied subjects is vacant. The studentship is open to candidates under 30 years of age who have studied in the medical school of Guy's Hospital, is of the annual value of £150, and is tenable for three years. Further particulars may be obtained from the secretary of the board of electors, to whom application must be addressed at the office of the medical school not later than April 17th next. The elected student will be expected to commence work on May 1st.

Reviews and Notices of Books.

The Principles of Hygiene as Applied to Tropical and Sub-Tropical Climates, and the Principles of Personal Hygiene in them as Applied to Europeans. By W. J. R. SIMPSON, M.D. Aberd., F.R.C.P. Lond., D.P.H., formerly Health Officer of Calcutta and Lecturer on Tropical Hygiene at the London School of Tropical Medicine. London: John Bale, Sons, and Danielsson, Limited. 1908. Pp. 396. Price 15*s.* net.

Professor Simpson has by the publication of this work rendered more feasible the improvement of our methods of sanitation in India and the tropics generally. Hitherto no work of authority has been published with quite this scope. Although the principles of hygiene are the same in the tropics as in colder climates, yet they are in truth modified by the differences in temperature, food, mode of life, environment, and civilisation found in the former, and consequently the practice of hygiene in the tropics is in many respects different from that pursued in colder climates, and the methods pursued have to be adapted to their particular circumstances. Non-recognition of this need of adaptation to the varying conditions met with will account for the frequent failures in the application of hygienic principles. For example, water-sealed traps properly ventilated are not equally useful in the tropics and in temperate regions as guardians against gas from sewers gaining access to the dwelling houses. Similarly, English types of latrines are seldom adapted to the habits of Eastern peoples. Other obvious points, among many that have to be considered, are the modification of the methods of the purification of water, the question of food, and the relation of insect life to the dissemination of disease.

The work opens with a discussion on warm climates and the necessary personal hygiene therein. The remarks on food and drink are excellent and those on clothing and bathing represent the fruits of experience, though the reason for some of the rules is not obvious. The author in the next four chapters discusses fully the question of water-supplies. The principles of diet and the construction of dietaries are next considered and are fully up to date, Chittenden's researches in this respect being relied on. The relation of food to health and disease is succinctly debated, and an excellent *résumé* of the bearing of diet on the etiology of beri-beri is given, the various theories on the subject being all set out. Other diseases connected with diet in the tropics, such as lathyrism and pellagra, receive detailed attention as well as the various parasites in food which cause disease. Again, the author pertinently shows how a not uncommon source of illness amongst the native population is the keeping of food which has been cooked overnight, or in the early morning, for meals of the next day in order to save fuel. The food thereby becomes decomposed, or from long standing amidst insanitary conditions absorbs or has had added to it foul emanations or infectious material. The facts in relation to the infection of meat are concisely described, as are the post-mortem appearances appertaining to the several disease conditions that may be met with.

Dr. Simpson next passes to the collection, removal, and disposal of waste matters. The early removal of all such matters from dwellings in the tropics is rendered necessary by these waste products undergoing a far more rapid decomposition in warm than in temperate climates. The removal and disposal in a *dry* hot climate will present few difficulties, but far otherwise is it where the climate is both hot and *wet* or in the region of tropical rains. Then the procedure will be much more complicated. The most important of the waste

products are, of course, the excreta and sewage: these, as there are as a rule no sewers in villages and small towns, have to be removed by manual labour or cartage. In connexion with this the author considers the amount of excreta to be removed and the number of buckets and carts required for the removal; the protection of the excreta from rain and flood water—in itself a most essential procedure; and latrines and trenches, where he shows how essential it is to keep the solid and liquid excreta separate. The various forms of latrines are described and next the methods employed for removal and disposal of sewage. The Allahabad system of trenching is considered; it is certainly admirable for temperate climates, as was shown by the late Dr. Vivian Poore, but in India it has drawbacks, notably it attracts dangerously large numbers of flies. This may not be of great importance at certain seasons of the year and if the trenching ground be well removed from dwelling houses; and in the hills Colonel H. Hamilton, I.M.S., has found it to answer admirably.

The removal and disposal of sewage by the water-carriage system has a chapter to itself. This system can only be undertaken in large towns provided with drains and sewers. The author points out that the separate system is the preferable one in the tropics, the storm water going direct to the river, whilst the sewage goes to the land to be purified before admission to the river. The various methods of the disposal of the sewage conclude the section. The subjects of the soil and its drainage next claim attention, and then hygiene in relation to streets and houses. The value of these can be easily understood when we recollect the narrow streets, the winding alleys, the crowding together of the houses, the whole forming a highly insanitary labyrinth which cannot be efficiently cleansed nor be purified by a free circulation of air. (What a blessing to health it would be if such a fire as the old fire of London would burn out once and for ever some of the thickly populated foci of disease with which our Eastern possessions abound!) The sanitation of jails is detailed and good results are shown to be here well within the powers of the jail superintendents, as the surrounding circumstances are less inimical to health. The last two chapters are on communicable diseases and on the measures to be undertaken against the malaria and the other diseases caused by the mosquito.

From this brief *résumé* of the work a just idea may be gathered of its design and contents and it will be seen that an ever-increasing number of Europeans require exactly the kind of information with which it is packed.

Our Teeth: How Built up, How Destroyed, How Preserved. Described and illustrated by R. DENISON PEDLEY, F.R.C.S. Edin., L.D.S. Eng., Dental Surgeon to the Evelina Hospital for Sick Children, Southwark; and FRANK HARRISON, M.R.C.S. Eng., L.D.S. Edin., Dental Surgeon, Sheffield Royal Hospital, and Lecturer on Dental Surgery and Pathology, University of Sheffield. London: Blackie and Son, Limited. 1908. Pp. 97. Price 5*s*.

IN the preface to this work the authors state that "this book seeks to explain what is unknown to the majority of educated men and women—viz., the causes of dental diseases, the means of preventing them, their effects, and the need for their rational treatment." The task of writing on disease in language understandable by the lay mind is not an easy one, but the authors seem to have overcome the difficulty and have produced a work which can be readily understood by any and all, and which will have the effect of directing attention to the importance of their teeth and cause them to seek dental advice at an early stage. There are, however, a few criticisms we should like to offer, more perhaps in the way of suggestion for future editions. In a few instances the terms used are a little too technical for a work so directly addressed to the public intelligence. We think that the introduction of drawings to show the developing teeth at birth, one year, and perhaps three years of age would impress more vividly in the mind the fact that in the early years of life the permanent teeth are in the process of formation. Perhaps, too, insufficient attention has been drawn to the actual cause of caries and not enough made of the important part that the easily fermentable carbohydrates play in the production of the diseases. Lastly, we think that the rules on the care of the teeth might be made more terse and more dogmatic. In our view it would be difficult to improve upon the short code of rules in use at the Royal Dental Hospital which is as follows: "1. The teeth must be kept clean. 2. Use a small tooth-brush with stiff bristles. Use a little soap and some precipitated chalk. 3. Brush all the teeth thoroughly, especially the back ones. Brush all surfaces of the teeth. 4. Clean the teeth immediately before going to bed. Take no food of any sort afterwards. Clean the teeth again in the morning." Nobody can mistake the meaning of this code, which is saying a good deal when we recollect what mistakes the hospital out-patient can make.

Archives of the Middlesex Hospital. Vol. XII. London: Macmillan and Co. 1908. Pp. 63.

THIS small volume contains clinical papers from members of the teaching staff of the hospital and contributions from the clinical and pathological laboratories. The first of these is by Dr. Comyns Berkeley on Wertheim's Radical Abdominal Operation for Carcinoma of the Cervix Uteri, and includes a report of four cases. This operation, by which the uterus with as much parametric tissue as possible and sufficient of the healthy vagina to encapsule the diseased area are removed through an abdominal incision, is regarded as a striking advance on any method previously proposed for dealing with cancer of the cervix uteri, since it is applicable to a larger proportion of the cases and results in a greater freedom from recurrence. Dr W. Pasteur, Mr. A. G. R. Foulerton, and Dr. H. Maccormac describe their investigation of a case of acute poliomyelitis associated with a diplococcal infection of the spinal sac, this paper being reprinted from THE LANCET of Feb. 15th, 1908. Mr. W. Sampson Handley discusses the operation of Lymphangioplasty, which he first described in THE LANCET of March 14th, 1908, and gives an account of three cases in which he has employed it. He describes the manner of production of the brawny arms in cases of cancer of the breast, which he attributes to the destruction of the lymph vascular system associated with the permeative spread of the growth. He also refers to the reasons which led him to try the use of "silk conduits" for the relief of this painful complication and gives instructions for the performance of the operation. Dr. Reginald J. Gladstone describes two cases of diaphragmatic hernia. The first of these was a diaphragmatic hernia of the "solitary" kidney in an iniencephalic monster, in which there was also an umbilical hernia of a portion of the liver and gall-bladder. The other case was that of an old woman, aged 96 years, with a fatty hernia into the right pleural cavity, and in addition the sac of a small femoral hernia on the right side and also a small obturator hernia of the extra-peritoneal fatty tissue on the same side. The same observer describes a case in which an aneurysm of the arch of the aorta, multiple tuberculous lesions, a perforated ulcer of the intestine, and a hernial sac co-existed in a man who ultimately died from acute lobar pneumonia. These various lesions were found in a dissecting-room subject who had only complained of symptoms three months before death. There were also present an empyema of the lower part of the left pleural

cavity and complete blocking of the thoracic duct by a thrombus. Dr. Victor Bonney contributes a paper on the simulation of the symptoms of tubal pregnancy by acute ovarian abscess. He refers to the fact that in cases of ovarian and tubo-ovarian abscess there is usually a history of amenorrhœa and that not infrequently they are wrongly diagnosed as ruptured tubal gestation.

Retinitis Pigmentosa, with an Analysis of Seventeen Cases occurring in Deaf-Mutes. By WILLIAM T. SHOEMAKER, M.D., Philadelphia. With Examinations of the Blood and Urine by JOHN M. SWAN, M.D., Philadelphia. With illustrations and three coloured plates. Philadelphia: J. B. Lippincott Company. 1909. Pp. 106. Price 8*s.* 6*d.* net.

THIS essay, bearing the modest motto "Valeat quantum valere potest," was awarded the Alvarenga prize of the College of Physicians of Philadelphia in 1908. It is an excellent *résumé* of the subject, though perhaps not so exhaustive as might be expected in a thesis of this nature. Commencing with the history and anatomico-pathological characteristics of the disease, it must be remarked that the pathology is very cursorily dealt with. The symptomatology is adequately described, due attention being directed to the occurrence of ring scotoma and its explanation. Under etiology are discussed heredity, consanguinity, syphilis, maternal impression, deaf-mutism, idiocy, and cirrhosis of the liver. The more recent literature on the hereditary aspects of the question appears to have escaped observation, and the undue importance which has been attached to consanguinity is not sufficiently emphasised. The author agrees that syphilis plays no part in the causation of so-called "idiopathic" retinitis pigmentosa. It is not unnatural that some stress should be laid upon the coincident occurrence of deaf-mutism in some cases, and we are inclined to think that the author's purview of the whole question is somewhat vitiated by the limitation of his studies to a specific group of cases. The clinical details of the author's cases follow, but reveal nothing very noteworthy. The investigation of the blood and urine by Dr. Swan is a piece of work which was waiting to be done, and has been done well. It was a rather thankless task, for *a priori* one could expect no striking results, and it proved negative. Amongst the methods adopted we may point out that Baumann's method of estimating conjugate sulphates is open to criticism. It is to be hoped that some competent pathological chemist will turn his attention to the excretion of these sulphates in various diseases—a subject of far-reaching importance which has not to our knowledge been attacked by unequivocal methods in recent years. The book concludes with a chapter on diagnosis and treatment and a bibliography which is far from complete.

The Systematic Relationships of the Coccaceæ, with a Discussion of the Principles of Bacterial Classification. By CHARLES EDWARD AMORY WINSLOW, Assistant Professor of Biology at the Massachusetts Institute of Technology, and ANNE ROGERS WINSLOW. London: Chapman and Hall; New York: John Wiley and Sons. 1908. Pp. 300. Price 10*s.* 6*d.* net.

THE problem of the classification of micro-organisms is of practical as well as of scientific importance. Many groups of bacteria have become so crowded with slightly varying forms that some method of grouping these variants has become a necessity if hopeless confusion is to be avoided. The present work is a careful and painstaking attempt to bring order into the family of the coccaceæ. It has for its basis the detailed study of 500 strains of cocci isolated by the authors from various sources, together with an extensive study of bacteriological literature so far as it refers to the cocci. Much use, too, has been made of the investigations of Gordon and Houston and of the important work on the streptococci by Andrewes and Horder. The value of the work of these British observers is fully recognised and acknowledged. The methods employed have been biometrical. In the case of the strains of cocci isolated by the authors they were submitted to 11 definite, and in most cases quantitative, tests and a statistical study made of the results obtained. On the basis of the numerical frequency of characters it was possible to form a conception of the relations of the coccaceæ which led to a classification not too widely different from that previously employed. The organisms were found to separate themselves definitely into a parasitic and a saprophytic group—the paracoccaceæ and meta-coccaceæ. In the first group fall the pathogenic diplococci and streptococci and the staphylococci (albus and aureus). The authors separate, it will be noticed, the diplococci from the genus streptococci, though it is more usual to regard the diplococcus pneumoniæ as belonging to the streptococci (Andrewes and Horder and others). The morphology and cell grouping of organisms, though used as test characters in the study of the various strains, are not allowed to override the indications derived from the other tests. This is seen in the above example, and in the same way, though the genus sarcina is retained to include packet-forming cocci which are regarded as closely allied to the genus micrococcus (Winslow and Rogers), yet a number of cocci, though showing the sarcina arrangement, are included in a new genus, rhodococcus, on the ground of red pigment formation and other characters. It has become rather usual to consider staphylococcus pyogenes aureus and albus as varieties, but they are here regarded as the type organisms of the two genera aurococcus and albococcus respectively. Variations in cultural characters are considered to be too uncertain and too dependent on small changes, physical or chemical, in the nutrient media to be of any service for the purposes of classification. The character of pigment production under definite conditions is, however, considered to be of high value and a quantitative colour chart is prefixed to the book. The general principles of bacterial classification are most excellently set forth in the first chapter. There is a very extensive bibliography.

LIBRARY TABLE.

Pharmacology: The Action and Uses of Drugs. By MAURICE VEJUX TYRODE, M.D., Instructor of Pharmacology in the Medical School of Harvard University. Philadelphia: P. Blakiston's Son and Co. 1908. Pp. 255. $1.50 net.—This book is an attempt to give the facts essential for the medical student's needs without profound scientific discussions of opposite opinions, and the author has rejected vague and contradictory statements which would but confuse elementary students. The classification is not that usually adopted in the run of text-books. Part I. deals with drugs the constitutional action of which is in greater prominence. These are divided into 25 groups, including such as the following: ether and chloral, amyl nitrite, morphine, ammonia, cocaine, hydrastine, quinine, phenol, and so on. In each case the chief actions, uses and therapeutic effects of the drugs are stated, and at the end a short summary of the group action is added by way of emphasising the chief points. Chemical formulæ are conspicuous by their absence, while as regards the materia medica aspect of the groups the doses are given both from the U.S.P. and the B.P. when the drug is described in both Pharmacopœias. We strike upon a new term here and there, such as the "somnifacient action of chloral." Quinine as a substance that decreases the functional activity of all forms of protoplasm is dwelt on, and so is its use in malaria, the importance of its therapeutical application and its exhibition in large doses a few

hours before the division of the parasite in the blood. The prolonged use of such "headache powders" as consist of acetanilid is commented on as the habit may give rise to chronic poisoning. Part II. deals with ferments, secretions, and extracts of animal organs, and includes the digestive ferments, bile, adrenalin, and iodothyrin, animal extracts, and artificial foods, but the last of these is dealt with very lightly. The third part treats of drugs the local action of which is most in evidence, such as skin irritants, urinary antiseptics, vegetable purgatives, bitters and astringents, and anthelmintics, and, last, mechanical agents which are used either for their physical effects in the preparation of active drugs or other purpose—e.g., gums, oils and fat, collodion, &c. The last part deals with drugs of inorganic origin, oxygen, acids, alkalies, neutral salts, non-metallic elements, and finally with metallic compounds. The book gives an excellent and precise account of the chief and most useful drugs used in medicine.

The Food Inspector's Handbook. By FRANCIS VACHER, Medical Officer of Health of Cheshire. Fifth edition, thoroughly revised and greatly enlarged. London: The Sanitary Publishing Company, Limited. 1909. Pp. 268. Price 7*s.* 6*d.* net.—We have expressed our appreciation of this useful little work in our references to the earlier editions; and now that in the present (the fifth) edition the section on meat has practically been rewritten in accordance with recent legislative regulations on the subject, and fresh matter also dealing with statutory powers in regard to the adulteration of food has been added, the handbook forms an excellent practical guide for medical officers, meat inspectors, and indeed all sanitarians at the present time. The illustrations are an excellent feature of the book, 27 new drawings having been specially prepared for this edition by Mr. R. E. Holding, who has given great care to detail, and his representations of various pathological conditions are decidedly realistic. The sections of the book relating to fruit and vegetable foods, while including some instructive paragraphs in regard to the characteristics, preparations, and appearance of these foods when sound, are somewhat brief. The book does not pretend to be a work for the analyst, and so, while the subjects of the composition and adulteration of foods are briefly discussed, the methods employed for the detection of adulteration are omitted. The book is well worth possessing by all those concerned in the practical administration of laws designed to insure the purity and soundness of all classes of human food.

1. *Food Reform.* 2. *Hints Towards Diet Reform.* The National Food Reform Association. 1909. Price 1*d.* and 2*d.* respectively.—We have received the two little books above mentioned with a request from the secretary of the association for their notice. No. 1, which is by the Hon. Neville Lytton, urges the need of food reform, and points out how much of our diet nowadays consists of tinned meat and "artificially bleached bread," a subject to which we have referred recently at some length. The great fault of bread nowadays is that it consists mainly of starch, for not only is the flour so prepared in the rolling mill that nearly everything but the starch is removed, but it is stated that a custom exists of "setting the sponge" with water which has been allowed to run through potato pulp. The second book consists of simple recipes for non-meat dishes. They are good enough, but a vegetarian diet does not suit everyone in this climate, and it is no good pretending that it does. Certain persons may find that their health is better if they do not eat meat, and for such persons a non-meat diet is to be recommended. But food reform is a much wider subject than simply the absence from the dietary of flesh food. Two of the greatest desiderata of diet are pure milk and honest bread. If the National Food Reform Association would set itself to secure that these two articles of diet could be obtained everywhere it would be doing a useful work.

Extraction of Teeth. By FRANK COLEMAN, M.R.C.S. Eng., L.D.S. London: H. K. Lewis. 1908. Pp. 158. Price 3*s.* net.—The removal of teeth, although seemingly an easy operation, is, nevertheless, one which to perform neatly and without undue discomfort to the patient requires a thorough knowledge not only of the anatomy of the parts involved but also of the technique of the operation. In this good little work the author has provided a clear and exhaustive account of the operation, and we can cordially recommend the book to those medical practitioners who are called upon occasionally to perform this operation for their patients without being specialists in dentistry.

JOURNALS AND MAGAZINES.

Hospital Gazettes.—Amongst recent contributions to the school journals we have noticed the following. In *Guy's Hospital Gazette* (March 6th) is a paper entitled An Experimental Feeding Trial in Relation to Epidemic Enteritis, by Mr. E. P. Minnett, who after studying 38 infants for 19 weeks concluded that dried milk prepared with boiling water is deserving of further trial in the summer months amongst the poorer classes, as by proper preparation it affords a nearly sterile food which may well prevent a good deal of epidemic enteritis.—In the *London Hospital Gazette* (March) is an interesting note on Some Historical Associations of "the District," illustrated by a map of the Whitechapel, Mile End, and Docks locality in 1794.—The *Middlesex Hospital Journal* (March) contains an article by Dr. J. Strickland Goodall on Pain: its Nature and its Benefits.—In the *St. Bartholomew's Hospital Journal* (February) the editor called attention to an unfortunate mistake by which the name of Dr. H. J. Ilott of Bromley appeared in the obituary list of the recently published hospital year book, whereas Dr. Ilott is in excellent health and active practice. In the March number of the same journal Dr. A. R. Neligan writes on the Practice of Medicine in Persia, in which, as in the constitutional affairs of that disturbed country, the old is clashing with the new.—The *St. George's Hospital Gazette* (March) is chiefly occupied with local affairs, including "A Chapter in the History of St. George's Hospital," which deals with the Crayle family, notable benefactors of the charity.—In *St. Mary's Hospital Gazette* (March) Mr. S. Maynard Smith discourses upon "The Patient's Point of View"—a point of view which the student is perhaps a little apt to overlook. The author proves himself an observant psychologist.—In *St. Thomas's Hospital Gazette* (February) is an address on Eclampsia and the Other Manifestations of Toxæmia in Pregnancy, by Dr. J. S. Fairbairn.

The Contemporary Review for March contains an article by Mr. Jack London which affords an interesting pendant to an annotation recently published in THE LANCET on the United States leper settlement in Molokai which has been established to segregate the lepers from the Hawaiian territory. Whereas we dealt with the scientific issue, Mr. London is concerned with the social side of the community, and his particular message is summarised in the vigorous appeal made to him by an engineer patient on the island. "For heaven's sake, write us up straight. Put your foot down on all this chamber-of-horrors rot and all the rest of it. We don't like being misrepresented. We've got some feelings. Just tell the world how we really are in here." Mr. London has written them up straight. Without minimising the terrible nature of the affliction which separates these islanders from their homes he shows them to be an active, prosperous, sporting community in which if a man

wants to work he can make money, while if he does not feel industrious as a ward of the State he is provided with board, lodging, and clothing, and can idle his time away in a country of extreme natural beauty and with a pleasant climate. Some of the lepers' sports and festivals are described in such terms that later in the course of this interesting article we are not surprised to read: "In the old days, before the discovery of the leprosy bacillus, a small number of men and women, suffering from various and totally different diseases, were adjudged lepers and sent to Molokai. Years afterwards they suffered great consternation when the bacteriologists declared that they were not afflicted with leprosy and never had been. They fought against being sent away from Molokai, and in one way or another, as helpers and nurses, they got jobs from the board of health, and remained." The elaborate precautions taken nowadays to prevent a faulty diagnosis being made are described. These include in every case a bacteriological bioscopy and a subsequent examination by a board of five physicians. Before a patient is sent to Molokai he is kept at a Honolulu receiving station for as long as is necessary to arrange his business affairs, and he is allowed to receive visits from his friends under proper precautions after his segregation. Mr. London's breezy account of this contented lazar settlement is made more pointed by his reference to the mediæval custom of Europe of reading the burial service over a man pronounced to be a leper and regarding him thenceforth as legally dead.

Quarterly Journal of Experimental Physiology. Vol. II., No. 1. 1909. Pp. 108. 6*s.*—The bulk of this volume is taken up with Dr. J. Macdonald's paper on the Structure and Function of Striated Muscle. Beginning with the undoubtedly unsatisfactory hypotheses explanatory of the facts of muscular contraction—such as the theories of Engelmann (1893), of MacDougall (1897), and the modification of the latter by Bernstein, the author proceeds to indicate the probability that osmotic pressure is a prime factor. The histological evidence shows that actual changes in the distribution of salts have been observed in different phases of muscular contraction. Interesting chapters follow on the theory of muscular contraction and the stability of muscle due to its sarcoplasm, and then are shown the process of contraction and its attendant electrical and chemical consequences. It is the secondary consequences of contraction that determine the occurrence of relaxation. The nature of polarisation, tetanus, and tone lead up to an excellent summary of the author's view. This is a most valuable and suggestive paper. The other papers deal with Recent Work on Protagon, by R. A. Wilson and W. Cramer, with a view to show that this much discussed substance is a proximate principle. There is a short paper on the Pancreatic Secretion, by P. T. Herring and Sutherland Simpson, and one on the Action of Yohimbine, by A. Loewy and Franz Müller.

New Inventions.

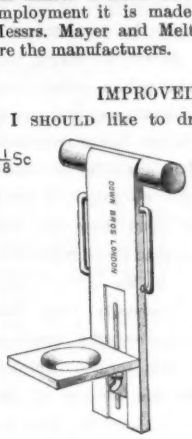
A COMPRESS HEATER.

THIS is a simple but useful invention devised for the purpose of heating poultices, compresses, dressings, and other things of a similar nature for use in medical and surgical treatment. As will be seen from the illustration, it consists of a vessel in the shape of a truncated cone, and a pan, perforated in its central part, which fits into and extends beyond the rim of the smaller end of the cone-shaped vessel. The diameter of the pan is about nine inches, the perforated part measuring four inches across. To each of the two parts of the apparatus is affixed a wooden handle which allows of their being moved about without risk of burning the hands of the user. Water is put in the lower part of the apparatus, the compresses or other articles are placed upon the upper tray, and the whole stood over a fire or any form of heating appliance. It will be found that the steam arising from the water heats the compresses almost instantaneously and all risk of scalding the hands is avoided

as no wringing is required. Another point worth noting is that in the absence of a properly trained nurse the time of the medical attendant is saved in making detailed explanations and emphasising the risks of scalding when compresses or fomentations are to be prescribed. The appliance should be really useful in hospitals and surgeries in which fomentations are constantly being applied, for, as all former surgical dressers are aware, the preparation of an effectively hot fomentation by means of the old-fashioned "wringer" is attended by considerable inconvenience. For hospital use the heater is made in stout copper, and for less frequent employment it is made in tinned iron at a smaller cost. Messrs. Mayer and Meltzer, 71, Great Portland-street, W., are the manufacturers.

IMPROVED CLAVICLE SPLINT.

I SHOULD like to draw attention to a modification of Mouat-Biggs's clavicle splint which ought, I think, to supply a distinct want. This splint I have found most useful in two or three cases but have been deterred from using it on more than one occasion owing to the difficulty in getting one of the three stock sizes to fit the length of the patient's arm. Messrs. Down Bros. have now made a splint with adjustable elbow-piece whereby the length can be altered as required, one splint thus taking the place of three or more fixed splints, an incidental advantage being its increased portability.



Woodbridge, Suffolk. T. CUMING ASKIN, M.D. Dub.

MEDICAL SICKNESS AND ACCIDENT SOCIETY.—The monthly meeting of the executive committee of this society was held at 429, Strand, London, W.C., on March 19th, Dr. F. de Havilland Hall being in the chair. The record of the business of the society for the early part of this year is satisfactory. The number of sickness claims received has been large but on the whole the sickness experience is rather lighter than for the same period of 1908. The number of new entrants is also quite satisfactory, being well above the average, though rather less than in the corresponding period of last year. As no money is paid by the society as commission and no agents are employed the ever-growing number of new entrants is satisfactory evidence that the benefits offered by the society are appreciated by the profession. Prospectuses and all further particulars can be obtained on application to Mr. F. Addiscott, secretary, 33, Chancery-lane, London, W.C.

THE LANCET.

LONDON: SATURDAY, APRIL 3, 1909.

The University of London, the Royal Colleges, and the Degree in Medicine.

WE published recently an important report issued by the delegates of the Royal College of Physicians of London and the Royal College of Surgeons of England who had been appointed to draft a scheme under which joint examinations might be established with the University of London with the object of making an M.D. degree reasonably accessible to all London students. That such a consummation may be reached is, we suppose, the desire of the great majority of people interested in the welfare of the University and of the Colleges. It is desired in the first place by the students themselves who intend to enter their profession through the College portals. They have watched the development of provincial universities possessing powers to stamp their alumni with the letters which in the public esteem may appear as a badge of particular competence, and see no reason why their own curriculum, which has progressively grown more severe, should not end in a similar hall-mark These letters the Royal Colleges have no power to grant, though the tests which they impose upon those who seek their diplomas are no less searching than those required of aspirants to many medical degrees. In the second place the authorities of the Colleges naturally wish that their men who have passed a degree-worthy examination should obtain a degree on fair terms. Thirdly, this view is shared by a considerable section of the medical faculty of the University of London, who are grievously disappointed at the proportion of London students presenting themselves for the present degrees. It is, as is well known, not shared by many medical graduates who have obtained the degree of medicine of the University of London under the existing stringent terms, and this might very well be expected.

This is an oft-told tale, and the different methods suggested at different times for the wiping out of a blot on our system of medical education are also quite familiar. Everybody knows now that the Colleges cannot remove it for themselves by the simple process of asking for an extended charter. The institution of a one-faculty university is difficult to defend, and the existing universities would oppose the bestowal of degree-conferring powers upon any other class of corporations, however old, however respected, and however learned. The suggestion that a combined degree be given by the University and the Colleges has not only much to recommend it, but no fundamental objection can be preferred to it; it is sanctioned by the University statutes and has now received definite shape by joint action of the Colleges. The report of the delegates, after pointing out that the great majority of London and Cambridge medical graduates take the College diplomas and that at least a half of the College diplomates are also graduates in medicine, calls attention to the examination facilities afforded to the University of London by the Colleges and proceeds to make recommendations. For their full text we must refer to our issue of March 6th, p. 706, but we may summarise the main proposals, which are that the "pass" degrees of M.B., B.S., and M.D., should be granted by the University conjointly with or in association with the Colleges to all students who shall have taken at least four years of their curriculum in London; that the Colleges should continue to grant an independent diploma to students not aspiring to the medical degree; and that the University should grant independent "honours" degrees to those seeking higher distinction. These proposals are supported by strong arguments, and the delegates express the wish to meet delegates from the University to consider the matter with a view to presenting a united recommendation to the newly appointed Royal Commission which is to report to the Government upon the present condition of the University.

We are in complete agreement with the desire of the delegates of the Colleges, or rather of the Colleges which have adopted the report of their delegates, that a united and feasible plan may be presented to the Royal Commission, for herein lies the hope of a comparatively swift settlement of grievances which have been an abiding source of difficulty for a generation. If the Royal Commission cannot formulate a satisfactory scheme to render a London medical degree accessible to the normal and hard-working London medical student, then our metropolitan University will stand an acknowledged failure as regards one of its most prominent duties. We were glad to publish a fortnight ago a document which proves the medical faculty of the University to be alive to the gravity of the crisis and desirous of putting its own house in order so as to speak with unwonted authority before the Royal Commission. We refer to Professor E. H. STARLING'S and Mr. LEONARD HILL'S scheme to endow a competent board of their faculty with some of the present powers of the academic council of the University. This scheme has been adopted by the medical faculty with further recommendations which we publish on p. 1003 of this issue of THE LANCET, and the new Faculty Board will be appointed in July of this year. Whether this board will have all the results which its begetters desire can hardly be told, but we are convinced that the move is in the right direction, and we congratulate the faculty on their confirmation of the views of two of their ablest men. We congratulate them also on the re-election of Professor STARLING to the Senate for the coming four years, which will be perhaps more momentous than any that the University of London has yet seen.

Sanitation in the Field.

IN a recent admirable letter to the *Army and Navy Gazette*, over the signature "R.A.M.C.," attention was drawn to an utterance of Lord MIDLETON at a dinner given in his honour at the Royal Army Medical College in February. "Never again," said Lord MIDLETON, "in regard to sanitation, except on the most absolutely and exclusively military points, will the principal medical officer play second fiddle to any combatant officer whatever." All medical officers in the army are conscious how greatly they are indebted to the speaker, who, when Secretary for War as Mr. ST. JOHN BRODRICK, did so much to raise their status and privileges, both professional and military, and we were glad to see prominence given to his weighty words on the subject. The well-informed correspondent of the *Army and Navy Gazette* goes on to contrast the painful process of evolution through which the army medical sanitarian has had to pass before attaining his present desirable position, and quotes, as was inevitable, the very disparaging remarks which Lord WOLSELEY made use of in his "Soldier's Pocket Book" in regard to the sanitary officer with an army, whom he regarded frankly as "a very useless functionary." Army medical officers have long believed that Lord WOLSELEY did not hold them in great esteem—could they, indeed, hold any other view? But "R.A.M.C." proceeds to quote a sentence from the autobiographical recollections and opinions of Sir CHARLES MACGREGOR, in which Lord ROBERTS appears also to have paid little heed—at any rate, in one instance—to the opinion of a medical officer. It was in regard to the site of a camping ground: the site was reported by the medical authority to be objectionable for sanitary reasons; and it is stated that General ROBERTS (as he then was, during the Afghan war) dismissed the medical protest with pungent and discourteous brevity. If the episode as detailed by Sir CHARLES MACGREGOR actually happened in 1880, all we can say is that the attitude towards the military sanitarian thus shown was very different from his lordship's attitude towards the medical authorities of the army during the last 20 years of his service. There has probably never been any Commander-in-Chief in India, or in the field, or at home, who has shown such lively appreciation of the importance of medical and sanitary matters in the service, or been so cordial in his recognition of individual officers who have served under him, as Lord ROBERTS. And we take particular pleasure in recording this fact because certain of the deplorable occurrences in the South African war have been attributed to a neglect on the part of the then Commander-in-Chief to consider sanitary matters in the light of their due importance. This is an unfair view to take and could only be taken by those who are ignorant of the attendant circumstances.

Many years ago the chief medical officer of an army in the field was also the sanitary officer and was attached to the staff of the Commander-in-Chief of the expedition. Lord WOLSELEY objected that the principal medical officer was not, properly speaking, on the staff of the commander, and for some years it was ordered that he should be borne on the staff of the general commanding line of communications. This was found not to work well, and in 1900 it was again laid down that the principal medical officer of a force was to be attached to the staff of the general officer commanding-in-chief. In the existing Medical Regulations (1906) the conditions and arrangements applicable to field service are not detailed. There can be little doubt, however, that the principal medical officer would not be "relegated to the base" or placed in any other position than that in which he is certainly required—namely, on the immediate staff of the general commanding. As regards sanitation in the field, which Lord WOLSELEY in his "Pocket Book" seemed to think of such small moment—a matter merely of "ordinary cleanliness of temporary camps and bivouacs"—the present position is much more satisfactory. On mobilisation of a force a sanitary inspection committee will be formed for service in the field, consisting of a combatant officer as president, a field officer of the Royal Engineers, and a field officer of the Royal Army Medical Corps. This committee will act under the orders of the general commanding-in-chief, and will ascertain that sanitary materials and appliances of all kinds are forthcoming; will coördinate the work of the different military branches, combatant and medical, as well as the sanitary organisation of the country occupied, if any such exists; will initiate schemes of general sanitation; and will visit and inspect stations, and advise local authorities. This small, actively mobile, and responsible committee will deal with sanitary matters in a business-like way, and as it will act immediately under the orders of the general-in-chief, its decisions and recommendations should be promptly and effectively carried out.

At this time of day there is not so much need to dwell on the importance of sanitation for the effectiveness of warlike operations as was the case some years back. A striking instance of the coexistence of the highest military efficiency with at the same time the highest degree of health of the troops, resulting from close attention to sanitation, was recently given by Sir A. KEOGH, Director-General of the Army Medical Service, in an address to the Royal Sanitary Institute. The 7th Dragoon Guards served in Flanders from 1742 to 1747. "During this period it is related of this regiment that it never lost a man by desertion, never had an officer or man tried by general court martial, never had a horse or man taken by the enemy, that it lost but six men by sickness, and had no fewer than 37 of its N.C.O. and men promoted to commissions for distinguished conduct." The colonel, Sir JOHN LIGONIER, had the highest reputation as a fighting soldier and also as a strategist. Moreover, "it is related of him that such was his anxiety for the welfare of his men, that he maintained an additional medical officer in his regiment at his own cost." During these five years in Flanders, when other regiments suffered severely from scurvy, dysentery, and fevers, in this regiment only six men died of disease. As Sir A. KEOGH said, this incident of military history is as brilliant an illustration as can be given of the connexion of sanitation with efficiency in war. But, as the history of medical matters in the army during the latter half of last century shows, it had been forgotten. We may hope,

however, in future campaigns, to chronicle similar successes of preventive medicine, now that there is a better chance of the medical voice being heard.

The Prevention of Hæmorrhage in Amputation of the Hip.

AMPUTATION at the hip-joint was not so very long ago one of the most serious and most fatal of all operations. When performed for severe injury to the thigh as a "primary amputation" it almost always ended fatally. In all the 12 cases in which this operation was done in the Crimean war death resulted and in 30 cases after gunshot injury, which were collected by LEGONEST, all terminated fatally. The results were not so unsatisfactory when the amputation was performed for disease, though here, too, the death-rate was high, for of 42 cases collected by ERICHSEN 18 died. The causes of this enormous mortality were three in number: they were shock, hæmorrhage, and sepsis. Sepsis need no longer trouble the surgeon. From the time of Lord LISTER'S epoch-making discovery the risks from sepsis even in operations of the magnitude of amputation of the hip have almost disappeared, provided the surgeon knows, appreciates, and practises the principles of aseptic surgery. It is only in a secondary amputation after severe trauma that the risk of sepsis is at the present day appreciable. The two other dangers, shock and hæmorrhage, still remain. Some recent writers have endeavoured to prove that collapse from hæmorrhage and shock are identical, but in prophylaxis and in treatment it is well to distinguish between them. In both there is a great fall of blood pressure. In shock it is produced reflexly by severe nervous impulses affecting the vaso-motor centre; in hæmorrhage it is produced directly by loss of blood. In amputation of the hip the shock must be great, for the nerves cut through are many and large. It is true that anæsthetics do to a very great extent reduce the shock of so great an ablation of tissue, and the continuous infusion of saline solution during an operation is of great value in maintaining the blood pressure, both when there has been much hæmorrhage and when there has been little. It is, however, in the direction of the prevention of hæmorrhage in amputation at the hip-joint that most work has been done and it is both interesting and profitable to consider the various devices that have been brought forward.

One of the earliest methods was brought into use with the transfixion flap operation. The fingers of an assistant were passed into the wound and compressed the femoral vessels against his thumbs without the flaps. This device has a great effect in controlling the bleeding from the femoral artery and vein, but the hæmorrhage from the branches of the internal iliac artery remains unaffected. The aortic compressor of PANCOAST or of LISTER effectively controls the arterial hæmorrhage but it has no effect on the venous bleeding, for it hardly compresses the inferior vena cava. Moreover, a further great disadvantage is that it is difficult to apply the instrument exactly over the right spot, and if this be not done greater pressure than is needed is liable to be applied, and thus severe damage may result. The aortic tourniquet is almost disused at the present time. Mr. RICHARD DAVY, consulting surgeon to the Westminster Hospital, devised a wooden lever which, introduced by the rectum, was employed to compress the common iliac artery. When rightly applied it was very efficient but it was never adopted to any great extent and it is now almost forgotten. TRENDELENBURG compressed the femoral vessels by passing a strong steel pin behind the tissues in front of the femur and winding an elastic tube round its ends in a figure-of-8. This controls well the hæmorrhage from the femoral vessels, but not the bleeding from the gluteal or the obturator vessels. JORDAN LLOYD'S method consists of the application of a rubber bandage round the hip; it is held in position by means of cords grasped by an assistant; it is very effective, for it exercises almost complete control on the hæmorrhage from all sources. In WYETH'S method a rubber tourniquet is applied round the hip; it is prevented from slipping down by means of two strong steel rods which are passed through the soft tissues on the inner and outer sides of the thigh. This is a very satisfactory method, and it is much more widely used in America than any other device. The loss of blood is minute. In SENN'S bloodless method the head and neck of the femur are first bared through an external excision and a pair of forceps is carried behind the femur to an opening on the inner side of the thigh, and then withdrawn grasping a rubber tube, which is employed to constrict the tissues in front of and behind the bone. The forceps of LYNN THOMAS also deserve mention, where one blade is entered from the outer side behind the femoral vessels and the other blade is placed over the skin, so that the vessels are clamped between the blades.

Many of these procedures are satisfactory and in careful hands will give good results, only a small quantity of blood being lost. Most of them are, however, impracticable if a growth exists very high up in the thigh. The hæmorrhage in an amputation at the hip-joint comes from the common femoral artery and its branches, and from the gluteal, sciatic, and obturator branches of the internal iliac. Any pressure to be effective must be made either on these vessels or on the common iliac artery from which they originally start. Pressure through the abdominal wall is liable to be inexactly applied and it may easily be excessive. In 1894 MCBURNEY of New York had to amputate the thigh of a boy for a large tumour of the right femur reaching quite up to Poupart's ligament, so that it was impossible to employ any constriction method of controlling the hæmorrhage, when it occurred to him that the most efficient method of applying compression to the common iliac vessels would be through an abdominal wound. A small incision was made as if for an appendicectomy, and the vessels were compressed during the amputation, with the result that the loss of blood was very small. Both the iliac artery and vein are compressed and thus loss of both arterial and venous blood is prevented. The additional risk of the abdominal incision is in competent hands almost negligible, especially when the diminution in the loss of blood is taken into account. The method is sound and it should be more widely known. Even in America it is very little used and in this country it is hardly ever employed. We are glad, therefore, to be able to publish in this issue of THE LANCET reports of two cases of growth of the thigh in which it was employed: in one case under the care of Mr. E. W. ROUGHTON and in the other under that of

MR. T. P. LEGG. In each instance the loss of blood was very small and rapid recovery followed the amputation. The only requirement is an assistant competent to carry out an aseptic laparotomy. It is probable that surgeons in general have not been aware of the existence of this method, otherwise it is certain that it would have received greater recognition than it has up to now. It is more in accord with modern surgical principles to apply a force directly where it is required than to trust blindly to a pressure extending over a wide area, where it may be not merely useless but even actively harmful.

Annotations.

"Ne quid nimis."

THE RECENT POOR-LAW REPORT: THE SPECIAL INVESTIGATION BY DR. J. C. McVAIL.

THE large scope of the inquiry, taken with the limited time at the disposal of the recent Royal Commission on the Poor-laws and Relief of Distress, rendered it expedient for the Commission to adopt numerous and where possible concurrent methods of collecting information. Certain aspects of the matters referred to them appeared to require for their elucidation local investigations in typical districts of a sort which they were unable to undertake personally. From time to time, therefore, they appointed a number of special investigators who furnished them with a series of reports on the various subjects of inquiry entrusted to them, and no doubt these reports will in due time see the light of publicity. To one special investigator, Dr. John C. McVail, county medical officer of Stirlingshire and Dumbartonshire, the responsibility was committed of reporting upon the "methods and results of administering indoor and outdoor Poor-law medical relief in certain unions in England and Wales," a fairly large reference, and Dr. McVail's report, a large blue-book, made its appearance on April 1st. To a certain extent the main recommendations of Dr. McVail's report are well known to those who have studied the Majority and Minority Reports of the Commissioners, for in both reports prominence is given to the views which he has expressed. Indeed, it may almost be said that up to a certain point the Majority Commissioners adopted Dr. McVail's views in respect of the foundation of a Public Assistance bureau, for they state definitely in that section of their report where they review the system of medical assistance to the poor that they are quoting largely from Dr. McVail. The Commissioners, however, do not go so far as Dr. McVail. They do not, for example, add to their provident scheme the inducement of systematic but infrequent medical inspection, while they view with more complacency than Dr. McVail the suitability of the public health authorities of rural England to take over by some scheme of fusion all the duties which now fall under the Poor-law. Dr. McVail's report deals with the medical aspects of pauperism from the preventive side; he is particularly anxious to prevent hereditary pauperism by taking proper charge of the children of widowed mothers and by attending properly to the health of all Poor-law children. His report, which we shall notice shortly with more detail, is a very valuable document, as no doubt the Commissioners, for whom it was written, considered it.

EMANATION AND ELECTRON.

SOME further light on the nature of the radium emanation is thrown by the recent work of Sir William Ramsay, K.C.B., and Mr. R. W. Gray, the results of which were presented to the Chemical Society at its meeting on March 18th last. There are many who are interested in the subject yet who have a vague idea as to what the emanation regarded physically really is. Sir William Ramsay speaks of it as a gas which he and his colleague have been able to prepare in a state of purity and now they have succeeded in obtaining it in the form of liquid in sufficient quantity for making observations. The liquid is described as colourless, but viewed by its own illumination even in broad daylight it is visible as a greenish or bluish-green phosphorescent layer, not very luminous, but more luminous than the gaseous layer. When, however, the tube containing it is touched with cotton-wool moistened with liquid air it turns brilliant; the colour changes to a bright steel blue and it blazes with light. Continued application of liquid air changes the colour first to white, then to yellow, and finally to orange. Under the microscope it looks like a brilliant arc light. On removing the liquid air the reverse change occurs, the orange light becomes yellow, then white, and then blue, and "there seems to be some sort of disturbance in the tube, as if crystals of a solid were disintegrating; then appears the faintly phosphorescing liquid, and if the volume be large enough the still more faintly phosphorescing gas." These changes can be produced again and again and were witnessed by several persons in the laboratory and "there is no doubt that the substance which is brilliantly luminous is a solid." In his presidential address, delivered before the Chemical Society at its annual general meeting held on March 25th, Sir William Ramsay referred to his researches which had indicated that the emanation had degraded on a minute scale some copper salt into lithium. He had no reason for believing that there was any fallacy in the experiment, for he had taken all the precaution it was humanly possible to take to exclude the adventitious entrance of lithium. Later his experiments indicated that thorium was capable of engendering carbon dioxide, or, in other words, that carbon was one of the degradation products of thorium. He, however, admitted that many more experiments would have to be tried before any positive statement could be made that certain elements when exposed to "concentrated energy" underwent degradation. These and other investigations he thought gave strength to the hypothesis that the genuine difference between elements was due to their gain or loss of electrons. To state it simply, if an atom of sodium gained or lost electrons, would it be still sodium as we know it, or would it be another element, In that case it would appear to be reasonable to regard the characteristics and properties of elements as not so much a function of atomic weight as of electrons. In other words, it is the electron that decides the resolution of the protyle or matter that is null and void into a recognisable entity. The "primordial stuff" as the common origin of all elements and indicated in Prout's hypothesis nearly a hundred years ago, thus receives a somewhat remarkable revival. Hypotheses have been buried longer than Prout's hypothesis which have since received the dignity of theory because they proved to be a reasonable interpretation of facts in the light of modern research.

A REVIVAL OF POPULARITY IN THE FRENCH MEDICAL SCHOOLS.

FROM the recently published statistics of the numbers of medical students at the commencement of each year in the various French medical schools it appears that whereas the numbers had been steadily falling until 1906, when they reached their lowest point, there was last year a remarkable increase of more than 900, part of which was due to foreigners, whose numbers increased from 648 to 819. These have again increased to 961 in January of the present year, though the number of Frenchmen has shown a decrease, being 7320, against 7538 last year. These figures, though large, are still considerably below those

reigning 13 or 14 years ago, for in 1895 there were 8916 students altogether, 7779 Frenchmen and 1137 foreigners. On looking through the list it is not surprising to find that by far the largest number of foreign students are Russians, and that these have greatly increased during the last few years, during which there have been troublous times at home. In 1903 there were only 171 Russians, whereas in 1909 there were 592. The contingent sent by Turkey, on the other hand, has fallen from 98 in 1902 to 77 in 1909. The same remark applies to Bulgaria, which only sends 47 this year, as against 101 in 1902. Greece and South America account for more than 20 each, but Great Britain and the United States for only five each. Of course, of all French medical schools Paris is *facile princeps*, the number at present there being over 3500, but Lyons has nearly 1000 and Bordeaux and Montpellier between 600 and 700 each. Few of the foreign students seek the full State diploma which is necessary for the purpose of practising in France. Many, however, take the University degree which does not give any right to practise; 46 such degrees were conferred during 1908. The old diploma of *Officier de Santé* has not been given now for many years, and a foreigner wishing to practise in France must go through the whole course and pass all the examinations which a Frenchman has to pass, no credit being given for any study or examinations already gone through in his own country.

THE UNUSUAL MARCH WEATHER.

THE following table showing the temperature, rainfall, and sunshine for the three weeks, Feb. 28th to March 20th, 1909, is interesting in connexion with the widespread sickness of influenzal type in many parts of the country and especially in London:—

—	Mean maximum temperature.	Mean minimum temperature.	Mean temperature.	Difference from average.	Days with rain.	Total fall.	Sunshine.
	°	°	°	°	*	Inches.	Hours.
London, Westminster	41	31	35·7	− 5·5	17	2·0	30
Glasgow	41	32	36·1	− 3·5	9	1·2	41
Leith	41	31	35·8	− 4·8	17	2·0	49†
Dublin	43	33	38·0	− 4·9	14	1·5	77
Manchester, Prestwich... ...	40	29	34·4	− 5·4	9	1·0	36
Liverpool	40	31	35·4	− 6·1	12	1·1	77
Birmingham ...	39	29	33·6	− 6·2	9	2·2	27
North Shields ...	41	30	35·0	− 5·0	17	2·4	?
Yarmouth	39	31	35·0	− 4·4	13	1·4	52
Hastings	39	32	35·7	− 5·6	17	2·5	56
Ventnor	43	33	37·6	− 5·1	16	2·0	77
Plymouth	44	33	38·4	− 4·7	16	3·7	73
Falmouth	43	34	38·5	− 5·2	17	3·6	81
Cardiff	41	30	35·0	− 6·6	16	1·7	60

* A day with at least 0·01 inch.
† These sunshine values are for Edinburgh.

A very superficial examination of the above figures for temperature is sufficient to demonstrate the unusual character of the weather for the first three weeks of March, during which sufferers from influenza increased so greatly in number. The places chosen for the above table are all cities or large towns, but they represent equally well the whole kingdom. The coldest week of the three was the first, when the defect of mean temperature over a large portion of the country was between 9° and 12°, while the duration of sunshine was much below the average, and rain, sleet, or snow very frequent and sometimes heavy. During the second week the weather was also much more cloudy than usual and precipitation very common, and the only amelioration during the third week was that over the western half of Great Britain and Ireland there was a good share of sunshine. The wind came from all quarters in turn, but a harsh current from some point of the compass between east and north greatly predominated. The distribution of sunshine exhibits some rather remarkable features. Dublin, Liverpool, and Ventnor recorded exactly 50 more hours than Birmingham and 47 more hours than Westminster, while those two cities were even less sunny than Glasgow and Prestwich. The south coast was relatively sunless for the time of year, and at Hastings, generally ranking among the brightest spots in the kingdom, there were fully 25 hours less sunshine than usual.

THE PEABODY DONATION FUND.

THE governors of the Peabody Donation Fund have recently issued their forty-fourth annual report, relating to 1908. The history of the progress of the work for which this fund was instituted is always full of interest. The princely donations of Mr. Peabody between 1862 and 1873, to promote the better housing of the London poor, amounted to £500,000, and under the careful and judicious management of the governors of the trust the fund had increased to £1,639,435 (or more than three times its original amount) at the end of last year. Since 1873 the net increase to the fund, mainly from rents but including interest and the special bequest last year by the late Mr. Henry Fox of the value of £27,887, has been equal to compound interest on the amount of the donations at £3 per cent. per annum. The capital expenditure on land and buildings during the same period has amounted to £1,529,432; and the net income last year from rents and interest was £40,295, equal to £2·56 per cent. on the capital of the fund, showing a slight decline from the rate of interest in the preceding year. During last year £12,962 was expended in repairs, &c., to the buildings, the whole of which was, as usual, charged to income. At the end of last year the governors had, by means of the fund, provided for the artisan and labouring poor of London 13,308 rooms, besides bathrooms, laundries and lavatories. These rooms comprised 5665 separate dwellings, including 278 cottages of five rooms, 105 tenements of four rooms, 1834 of three rooms, 2548 of two rooms, and 900 of single rooms. The mean population of the Peabody Dwellings has scarcely differed from 20,000 during the past 20 years, the mean population during last year being 19,914, showing a density of 571 per acre, and nine times the mean density in the whole of London. The fact that the population provided with dwellings by the fund has so long remained practically stationary appears to be due to the governors having in recent years devoted the net income of the fund to repaying the balance of the £390,000 borrowed many years ago from the Public Works Loan Commissioners. It appears, however, from the recently issued report that a site has been purchased in Bethnal Green, nearly an acre in area, and that plans and specifications have been approved for the erection thereon of seven blocks of buildings to contain 350 rooms. The vital statistics of the population residing in the Peabody Buildings during 1908 are, as usual, of a generally satisfactory character. The birth-rate was equal to 27·1 per 1000 and was 1·7 above the mean rate in the whole of London. The death-rate, including the deaths of 77 residents removed to hospitals, did not exceed 12·4 per 1000 and was 1·4 below the mean rate in London, and the rate of infant mortality was equal to 116 per 1000, exceeding by 3 per 1000 the mean London rate. This slight excess of infant mortality was quite

exceptional, as in the past five years the deaths of infants under one year of age in the Peabody Buildings does not appear to have averaged more than 96 per 1000 births, whereas in the whole of London during the same period it averaged 128 per 1000. All systematic attempts to deal with the housing of the poor are of the first interest to the medical profession, and the latest report of the Peabody Donation Fund makes very satisfactory reading.

A LITHOKELYPHOPÆDION.

THE fact that a fœtus the result of an extra-uterine gestation could be retained for many years in the abdomen was recognised by many of the ancient writers on obstetric medicine. It is said that it was known to Albucasis, the Spanish physician, who died in 1122, although von Siebold makes no mention of this in his account of the works of this writer. Cordæus, in his commentary on the works of Hippocrates published in 1585, records the first authentic case, attributed to Albosius, in which the fœtus was converted into a lithopædion and retained in the abdomen 28 years, and numerous instances of the same kind can be collected from the literature. One of the best known of the lithopædions described by the older writers is the one to be found in the Gynæcia of Israel Spach, 1595, who gives a figure showing the lithopædion *in situ* in the abdomen. In his description of the monster, as he thought it was, he asks, "How comes it that by a reversal of things the tender body of a little babe has limbs near akin to stone?" referring to the classical myth that Deucalion, who in Greek legend corresponded to the Biblical Noah, and his wife Pyrrha after the Flood were commanded by Zeus to throw behind them the bones of their mother—namely, the stones of the hill side—and from those thrown by Deucalion sprang men and from those thrown by Pyrrha sprang women. In 1881 Kuchenmeister recorded his celebrated case in which the calcified fœtus had lain in the abdominal cavity of a woman for 57 years, and collected all the cases to be found in the literature from the year 1582 up to 1880. In 1897 J. G. Clark published a case in which he removed from the abdominal cavity a fœtus weighing 4¾ pounds which had been retained some four years after the date of the rupture of the gestation sac, the patient making a perfect recovery. Most of the tissues of the fœtus had undergone saponification, but there was calcification of an enveloping membrane, probably the amnion, and some calcareous deposits were found in the skin and lungs. This is the largest lithopædion removed by operation in which the patient has recovered. In an interesting *résumé* of Kuchenmeister's paper Clark points out that the case of Varnier and Mangin was the first in which a twin pregnancy existed with the formation of a lithopædion. In 1802 von Weinhardt not only correctly diagnosed a case of extra-uterine pregnancy but operated and removed the calcified fœtus, the woman making a good recovery. In 1821 Bonisch successfully performed the first operation for the removal of a lithopædion by the vagina. In THE LANCET of March 27th, Mr. J. Lionel Stretton has described a case in which he removed during the operation of ventral fixation in a patient, 54 years of age, a globular mass from the left broad ligament. The lump of smooth surface and stony hardness measured 5 inches by 3 inches and on sawing it through was found to contain the well-preserved body of a fœtus of about four and a half months development. This may be an example of what Kuchenmeister termed a lithokelyphos, that is an instance of calcification affecting the membranes of a retained fœtus, the latter as a rule showing only signs of mummification. He limits the term lithopædion to those cases in which the fœtus itself shows signs of calcification beginning, as a rule, in the vernix caseosa and, as in Clark's case, affecting ultimately some of the internal organs as well. Cases in which the calcification affecting the membranes spreads to the skin of the fœtus he terms a lithokelyphopædion. No doubt this is the commonest variety of the so-called "stone babies" of the older writers, since a true lithopædion in which the calcareous deposits are limited to the fœtus is uncommon. It is very likely, indeed, that Mr. Stretton's case is in reality an example of lithokelyphopædion, although no definite information is given as to the presence or absence of calcareous deposits in the skin of the fœtus. It seems clear that in the great majority of these cases the calcification begins in the membranes and affects the body of the fœtus secondarily, and probably in every case the fœtus is the product of an extra-uterine gestation.

WESTERN MEDICAL TRAINING FOR THE CHINESE.

THE awakening of the latent potentialities of the Chinese nation has of late occupied a considerable amount of public attention both in this country and on the Continent, and men capable of appreciating the fire of industrial and perhaps military energies which the present generation is likely to see lit in China are keenly alive to the necessity of securing that the approaching flame shall be confined to the illumination of that ancient empire and shall not threaten Europe with a conflagration. There are no two opinions as to the means of securing this end. Education as opposed to technical instruction affords the only safeguard. The education of the hundreds of millions of people who form the Chinese nation in European morals and ideals must go hand in hand with their instruction in European industrial arts and science if Europe is to watch the kindling of the fire throughout China without apprehension of the ultimate consequences. It would hardly be within our province to speak on a momentous international issue were it not that two important schemes which have been recently laid before the British public to deal with it have both put the medical education of the Chinese in the forefront of their proposals. The reason is not far to seek. Up to the present time Christian missionary enterprise has formed the one link between the interior of China and the civilised world; progress has been slow, but where it has been made at all it has nearly always been due to the establishment of a mission hospital and to the appreciation of the skilful and painstaking treatment which the Chinese countryfolk have received at the hard-working hands of the medical missioners. Small wonder, then, that the prominent citizens of our country who are concerning themselves with the direction of the approaching Chinese renaissance are asking that the torch of learning in the East shall be lit at the lamp of Western medicine. The body which is moving most prominently in the matter is the China Emergency Committee, which held a Mansion House meeting on March 16th under the presidency of the Lord Mayor, who is one of its members, when an appeal was issued for £100,000, of which £40,000 are required for the establishment of medical colleges for the Chinese, to be administered, staffed, and supported by the various existing missionary societies; £40,000 are wanted for training the Chinese in the methods of teaching under Christian influences without imposing religious tests, and £20,000 for supplying Western literature in the vernacular. In an explanatory letter to the *Times* on the morning of that meeting Mr. F. W. Fox, Sir Percy Bunting, and Mr. J. B. Paton, members of the committee, stated that China is in the course of establishing throughout her provinces universities and schools devoted to Western learning, and that the present is

the time to render the most effective aid. They continued: "It is proposed therefore to establish four central colleges for training Chinese doctors. One such college already exists in Peking, but it is incomplete, and at least three others in three commanding localities are badly needed. The importance of this step is not measured by the possibilities of these four colleges; for the time will come—let us hope, speedily—when the Chinese Government must itself take up medical education; and the presence, as models, of institutions on Western lines will then be decisive as to the scientific principles on which the State action must proceed. The cry in China of 'China for the Chinese' will thus be satisfied in the best possible way." The Appeal Committee is presided over by Sir Robert Hart, and includes the Vice-Chancellors of Oxford, Cambridge, Edinburgh, and Glasgow Universities, the Primate, the Bishop of London, the President of the Wesleyan Conference, and many other representative men. We have referred to a second proposal to promote medical education in China, and we must add that there are indications that it may unfortunately clash with that recommended by the Emergency Committee. We hope it will not, for, as outlined by Mr. R. S. Gundry in an earlier letter to the *Times* on March 13th, it appears eminently practicable if sufficient support is forthcoming. Mr. Mody, a resident of Hong-Kong, has offered to give £29,000 to build a resident university for which the Government, subject to Government approval, will provide an excellent site if £110,000 can be raised in six months for its endowment. The two first faculties to be created would be those of medicine and of applied science (engineering). Mr. Gundry points out that the present scheme for establishing a medical college in Hong-Kong could not hope to result in so efficient a training for Chinese students as would be provided by the projected University. It has since been announced that a Chinese gentleman has promised a substantial sum towards the required endowment, and we should deplore the wreck of this promising scheme. It seems very desirable that the Chinese Emergency Committee should attempt to fall into line with it, for it has the blessing of Sir Frederick Lugard, the Governor of Hong-Kong, and an assured measure of local support. If the two appeals are made in opposition it seems more likely that people will subscribe towards the fund to further so concrete a proposal rather than to that in aid of the more nebulous plans of the Emergency Committee. In this case surely union will be strength.

THE ETIOLOGY OF ENDEMIC GOITRE.

THE question of the mode of production of endemic goitre has received a large amount of attention and many hypotheses have been put forward to explain why goitre occurs in certain districts. Nearly all observers are now agreed that endemic goitre is connected somehow with the water-supply, and it is said that in Switzerland some of the young men who wish to avoid military service drink of the water of certain springs and develop goitre and so obtain remission of service. It is still unsettled what constituent of the water gives rise to goitre, but the chief support has been given to the mineral salt theory, though the evidence in favour of any special metal or acid is very conflicting, and experimental attempts to produce the disease by administering saline substances have almost always failed. Klebs is the main upholder of the theory that goitre is due to micro-organisms, and various bacilli and infusoria have been credited with the power of producing goitre. At the meeting of the Royal Society on Nov. 26th, 1908, a communication was read from Captain R. McCarrison, I.M.S., who made a number of observations and experiments on the artificial production of goitre in Kashmir. At Gilgit in Kashmir cases of goitre are common and they are attributed to certain springs, and a research was undertaken to determine whether the water or its suspended solid constituents were responsible for the production of the disease. The goitre-producing water was filtered and a portion of the suspended matter was administered to 13 persons, among whom was Captain McCarrison himself; this was given every morning before breakfast. Four of them, including Captain McCarrison, developed enlargements of the thyroid gland. The experiment was repeated in the case of eight persons with the suspended matter, but it had been boiled for ten minutes before administration, and in no case did any enlargement of the thyroid gland occur. From the results of these experiments it was concluded that endemic goitre is due to a living organism present in the water, and it was suggested that the organism of goitre exists as an intestinal parasite in goitrous individuals, since the administration of an intestinal antiseptic appeared to have a marked curative effect. The incubation period of the experimentally produced goitre was from 13 to 15 days. Some experiments were made on monkeys to test the possibility of the spread of the disease by the fæces of infected individuals, but the results were negative. In the majority of the cases of goitre examined a marked amœbic infection of the intestine was found, but nothing is known as to any relation between the amœbæ and the disease. These observations of Captain McCarrison are of great interest, and they deserve to be continued. The absence of goitre in the subjects who took the suspended matter after it had been boiled does not prove conclusively that the cause of goitre was a living organism, for the number of cases was so small. Even in the first series only four were affected out of 13 cases on whom the experiment was tried. We would suggest that a full microscopic and bacteriological analysis of the suspended matter should be made, and the effect of the administration of some of the constituents separately should be observed. The enterprise of Captain McCarrison and those associated with him in experiments upon themselves must command the particular respect of all medical men.

PARÆSTHESIÆ.

OF the multitude of minor nervous complaints met with in private and hospital practice alike, one of the commonest is that of acroparæsthesia, so-called. The patient, who is usually a woman, complains of more or less continuous tingling or numbness in the fingers, sometimes in all of them, more frequently in those on the ulnar side. The tingling, which may amount to actual pain, impresses itself on her attention more particularly during the night, and in the morning; it is often more intense when the hands are warm, and then a feeling of burning may be remarked; sometimes there is a feeling of coldness. While the condition is usually bilateral, it is much more frequent in the upper than in the lower extremities, and in the former it rarely spreads as far as the elbow. The skin of the fingers may be bluish or red; sometimes the finger tips are peculiarly pink, and look full and swollen. In other cases no obvious—that is, visible—change in the hands can be found. It is very common for the patient to complain at the same time of a certain weakness and stiffness in the fingers, a certain difficulty in the performance of finer movements, a certain general tiredness of the limbs, a vague and indefinable feeling of uselessness. This paræsthesia and dyskinesia may continue unaltered for years, and careful examination may not lead to the discovery of any organic signs beyond some slight hypæsthesia in the ulnar or other distribution. In a recent number of the *Münchener Medizinische Wochenschrift* Dr. O. Wandel has collected 32 cases of this condition, 19 of which occurred in women. That occupation is of some importance in determining the

incidence of the disease on the upper extremities is clear; Dr. Wandel has noticed its frequency in washerwomen, scrubbers, and milkers; persons occupied daily in ordinary housework, in sewing, dusting, cleaning, &c., are very liable to it. In some of the cases the symptoms are intermittent and paroxysmal; the formication becomes acutely painful and is accompanied by involuntary flexion of the fingers. In none of Dr. Wandel's cases were the indications those of brachial neuritis; they were, on the contrary, suggestive of imperfect blood-supply to the peripheral nerves, and the view is advanced that they are associated with arterio-sclerosis, an endarteritis obliterans of the vasa nutricia nervorum. In some cases this change has been demonstrated histologically. Treatment based on this pathological conception is likely to prove helpful.

CONDUCT IN THE LIGHT OF DISEASE.

Sir Henry Montagu, first Earl of Manchester, in his little treatise entitled "Manchester al Mondo" has the following pithy sentence, typical alike in its pathology and its antitheses of the seventeenth century. He says: "Every humour in us engenders diseases enow to kill us, so that our bodies are but living graves, and we die, not because we are sicke, but because we live." Few things in the practice of medicine are more striking than the way in which some patients will go on leading their ordinary life the while they carry about with them conditions enough to make a serious breakdown not only possible but eminently probable. And yet from various causes they do not complain. In Vol. XII. of the *Archives of the Middlesex Hospital* which we deal with at length in another column is a case in which Dr. R. J. Gladstone describes an aneurysm of the arch of the aorta, multiple tuberculous lesions, including a perforated ulcer of the intestine, and hernial sac coexisting in a man who ultimately died from acute lobar pneumonia. These various lesions were found in a dissecting-room subject who had only complained of symptoms three months before death. As if these lesions were not enough he also had a left pleural empyema and a thrombus of the thoracic duct which completely blocked it. The really sick patient who does not seek medical advice or complain may be divided into four classes. Firstly, there is the patient who suspects some very serious or fatal disorder—for instance, a woman who suspects she has a cancer. We say suspects, but she practically knows, and yet she dreads to be told the fact, with the result that she hesitates to submit herself to a medical verdict until she is past the reach of effective aid. Secondly, there is that class composed of people who take a somewhat fatalistic view of life or death and who tell themselves that it is no use worrying and that they will just go on as long as they can. Thirdly, there is the class composed of persons suffering from some very chronic complaint, such as, for instance, the business man suffering from granular kidney. He is conscious of feeling vaguely unwell, but having so much to attend to, and never "bothering much about himself," as he expresses it, he goes on with his daily occupation until one day a cerebral hæmorrhage or an acute pleural effusion strikes him unexpectedly down, or perhaps one morning he wakes to find himself partially blind. And lastly, there are those brave souls who, knowing that they are doomed within a few years at the most, take up their burden for the sake of those near and dear to them, or for very love of labour, and work with undiminished courage to the end. Robert Louis Stevenson was the type of this class of sufferers, and our own profession can afford other shining examples. The name of John Hunter comes at once to mind. Contrast with these that large class of persons who with nothing whatever definite the matter with them, or with nothing but some illness which is due to their own self-indulgence, fly from one medical man to another, while in the intervals of orthodox treatment they dose themselves with all the various quack remedies which figure so largely in the advertisement columns of the daily press and the popular monthly magazines. They are always complaining, never satisfied, and are a nuisance to themselves, to their friends, and to their medical man for the time being. The type of this class is the man who habitually overdistends his stomach and who translates the resulting frequent attacks of cardiac palpitation into the warnings of approaching death proceeding from a heart in a condition of hopeless disease. The contrast is a remarkable illustration of the complexity of human nature, and can only be paralleled by the way in which the really poor suffer in heroic silence, while the loafer parades the streets with banners inscribed "Curse your Charity" at one end of the procession and a collecting-box at the other.

THE MEDICAL TREATMENT OF SCHOOL CHILDREN IN LONDON.

AT the meeting of the London County Council on Tuesday last the Council had under consideration an important report from its Education Committee presenting a report of a special subcommittee appointed in July, 1907, to consider the desirability of providing medical treatment for the Council's school children. A comment upon this report by the Finance Committee was also presented. The treatment of diseases of the teeth and eyes, of ringworm, favus, suppurating ears, adenoids, debility, and tuberculosis has been especially considered by the subcommittee, whose chief terms of reference were to inquire into the present provision for treating school children in London, into the desirability of providing additional facilities for that object, and into the best method of providing any further facilities that may be desirable. The debate upon the report was adjourned and we shall refer to it at greater length when we are able to record the conclusion of the Council's deliberations. In the meantime we will say that the report recommends the provision of treatment of the diseases specified in existing hospitals and dispensaries under a suitable financial arrangement between their managers and the Council in preference to the establishment of a system of school clinics in London.

LINIMENTUM IODI IN THE TREATMENT OF TUBERCULOUS SINUSES.

Mr. W. Arthur Tatchell of Hankow, Central China, has sent us an account of the success which he has had in the treatment of chronic tuberculous sinuses. The slowness with which these sinuses tend to heal is known to all surgeons, and Mr. Tatchell had in 1908 under his care a large number of cases of tuberculosis of joints, bones, and glands, and it occurred to him to employ a strong solution of iodine. He chose the linimentum iodi, or, as it is now called, the liquor iodi fortis, which contains 1 part of iodine in about 10. The results were very satisfactory, for the discharge ceased almost immediately and healing was rapid. The application of this strong solution of iodine, he tells us, is painless, except when some specially tender surface is treated. The iodine is applied daily and the wound is lightly plugged at the time of operation. A few years ago some surgeons employed a weak solution of iodine as an antiseptic for instruments and as an application for wounds and the results were good. The effect on the part to which it is applied is not merely superficial, but the drug penetrates some little distance into the tissues, though toxic symptoms

from absorption very rarely occur. A few weeks ago we commented on the value of iodine colloid in the treatment of anal sinuses, and Mr. Tatchell's communication forms a further proof that iodine is a very powerful antiseptic, which is hardly used as much as it might be in modern surgery.

TENEMENT HOUSES FOR THE TUBERCULOUS IN NEW YORK.

WE are indebted to the *New York Times* for an account of a scheme initiated in that city by Mrs. W. K. Vanderbilt, senior, who desires to make provision for poor families containing a member or members suffering from tuberculous disease, so that the worker may live with his relatives in sanitary surroundings within reach of his work. Slum-dwellings and houses divided into small tenements in ordinary circumstances in New York, no less than with us, are hot-beds in which the disease cannot be arrested in the individual or prevented from spreading to others, and it is felt that charitable treatment in country sanatoriums must be temporary and ill-adapted to the necessities of those whose dependents require the assistance of their labour. For these the ordinary tenement fails to provide a reasonably wholesome dwelling within the confines of the city, although it is recognised to be a profitable investment for its owners, and neither municipal nor private enterprise appears heretofore to have erected anything approaching to what is required in its stead. For this reason the charity of Mrs. Vanderbilt is directed towards the achievement of something more than the mere building at her expense of sanitary flats for 300 or 400 families. Her object is to show, by an experiment on a large scale, that such accommodation may be constructed and managed so as to save human lives and at the same time bring in a reasonable return for the capital involved. Should she succeed in demonstrating this her example will, no doubt, be followed and it is quite possible that she may do so. The plans and elevations of her proposed buildings do not indicate any lavishness of expenditure on ornamental details or on fads extrinsic to the result aimed at. The site selected is suitable without being of an extraordinary character and lies in the middle of the island formed by the intersection of Avenues A and B with Seventy-seventh and Seventy-eighth-streets, having at one end of it a small public square and at the other a school playground, and on its two sides the streets named. The proposed buildings are to be divided into blocks of moderate dimensions, having six floors, including that on the ground level, built round rectangular courtyards at the corners of which are to be staircases open to the air by which the "apartments" or small flats of from two to five rooms are to be approached. Each of these will open directly upon a staircase and will have at least one window facing outwards and another looking into the courtyard, so that it will always be possible to obtain a current of air through the tenement. Moreover, each courtyard is to be entered by two open arched entrances extending upwards from the ground to the level of the ceilings of what we know as the first floor, which hould have the effect of making the courtyard an effective air-shaft. The windows of the rooms are to be of good size, those on the outside opening from floor to ceiling and leading out to balconies. Every flat, as it will have at least one outside window, will thus have a balcony, and the tenants are also to enjoy the common use of a roof garden at the top of the block, on which shelters will be provided and other inducements designed to promote out-of-door life as far as possible. There will be no common halls or rooms inside the buildings, these being regarded as an insanitary and noxious feature in the ordinary New York tenement house. The scheme has been matured and its sanitary details formulated under the advice of Dr. Henry L. Shively of the Tuberculous Clinic of the Presbyterian Hospital, and it is hoped that he and other medical men will be able to find for the flats abundant tenants of the class for which they are intended. The enterprise appears to be a sound one, entered upon in a business-like spirit and without ostentation, and if, as is suggested, it can be carried out so as to afford some small annual interest to the generous lady who finds the capital it may lead to the development on a larger scale of sanitary houses for the general benefit of the working poor of the city. Much, however, will no doubt depend upon the goodwill and intelligence of the families who will inhabit the dwellings. Those actually affected with disease, having, perhaps, had experience in sanatoriums and having actually lived under conditions enforced by medical supervision, will, no doubt, understand how to avail themselves of the opportunities afforded, and it is to be hoped that their families may coöperate with them in giving free access to fresh air and in the maintenance of habits conducive to sanitation. Such habits will probably be new to many of them, and we are given to understand that their adoption will be the subject of advice, but not, or only to a limited extent, of compulsion. The free passage of air outside each tenement by means of open staircases and courtyards (of which, by the way, we have many examples in London) will be a benefit common to all and incidental to their occupancy, but the opening of windows and the use of the balcony and the roof garden will be matters for the exercise of individual discretion. The windows which lead on to the balconies are an important and characteristic feature, and when the commercial aspects of the venture come to be considered by the light of experience it will be interesting to ascertain whether the surface of glass implied is a source of appreciable extra expense, and how it affects the question of warming the rooms of poor people in the more severe periods of a New York winter. No doubt heating combined with free ventilation will be aimed at, but the question of how the warming is to be done is rather lightly touched upon in the account before us when we consider that the tenants are likely to desire in a "cold snap" the maximum of warmth with the least possible personal expenditure upon its attainment, and also that where the conditions of life in a particular set of rooms are according to the will of its occupants, facilities for the admission of fresh air may coexist with its rigorous exclusion.

THE INFLUENCE OF REST IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

IN another column we publish a paper by Dr. E. E. Prest on Graduated Rest in the Treatment of Pulmonary Tuberculosis. The writer very properly points out the importance of rest as a therapeutic factor, but in our opinion he rather exaggerates the state of affairs which has hitherto existed when he says that the "rest factor has been in the past ..... far too much obscured." By some observers rest has been too much insisted upon, the patients being allowed to take but very little exercise, and that only of one kind, namely, walking. Dr. Prest, however, makes some valuable comments on the conditions which demand rest and his paper is a useful adjunct to what has been written on "graduated labour." In fact, he makes the somewhat paradoxical, though correct, statement: "Graduated rest may be the same thing as graduated exercise or graduated labour," but insists "there is a difference in the emphasis." The truth of the matter is, that for success in the treatment of pulmonary tuberculosis "graduated rest" and "graduated labour" must

go together. The principles of the "graduated labour" treatment were well laid down by Dr. M. S. Paterson, medical superintendent of the Brompton Hospital Sanatorium at Frimley, in a paper read before the Medical Society of London,[1] and he has since shown that if an excess of auto-inoculation has taken place this can be best met by placing the patient under *absolute* rest—that is, by observing the same precautions which are adopted in cases of typhoid fever. Exercise and labour cannot be prescribed unless the temperature is normal, and until such a condition obtains, rest, as Dr. Prest insists, is of prime importance, and if exercise is permitted or indulged in too soon harm will surely follow.

"TEA" VENIENTE DIE.

IT is often asked whether the early morning cup of tea is permissible having regard to the chemical qualities and physiological effects of that beverage, especially under the particular conditions of the human organism after a night's rest. The early morning cup of tea is a source of comfort and refreshment to a good many persons when the mental and physical faculties are in a more or less lethargic state. To them a cup of tea is helpful in giving them, so to speak, a species of courage to face once again the demands and tasks of the day, and that being so it is superfluous for physiology and chemistry to preach that the practice may be beset with troubles connected more or less with the gastric machine. It can hardly be supposed that people who habitually enjoy their early morning tea suffer from any unpleasant symptoms or effects or they would discard the luxury, but, on the other hand, it is conceivable that in some cases mischief in the long run may ensue. It appears to be generally admitted that when tea is harmful at all (and we assume that it is a delicately infused and not long-boiled preparation that is chosen) it is when it is taken without food—that is to say, when the stomach is empty. That is a period when obviously the astringent substances of the tea may act more effectively as irritants to the mucous lining of the stomach and therefore excite a condition of chronic gastric catarrh. Happily, however, it is the custom of most persons to take milk with their tea, which, unless the tea is objectionally strong, neutralises the tannin substances and thus precludes their acting as irritants. The most cogent argument against the early morning cup of tea is that, as in so many cases at all events, the tea is swallowed before the mouth and teeth are cleansed, the septic potentialities accumulated in the mouth overnight are washed into the stomach, and a poisoning process in the system might thus easily be begun. This is not improbably a source of gastric catarrh in some individuals who drink their early morning tea before they leave their bed. The mouth, of course, should be clean before food, and especially before warm drink is indulged in. There is, perhaps, another reason why the institution of the early morning tea is popular, and that not a physiological one. Its preparation implies the stirring betimes of the domestics of the household, but this is a side of the matter which hardly calls for attention in our columns.

GANGRENE OF THE BREAST IN DIABETES.

IN the *Australasian Medical Gazette* for January Dr. H. Swift has reported a rare complication of diabetes—gangrene of the breast. On Oct. 6th, 1906, at 1 A.M. he was called to a woman, aged 64 years, whom he had attended at intervals for diabetes and attacks of angina. She complained of intense pain in the region of the left nipple, which she described as like the sensation of a red-hot iron being bored into the breast. The temperature was 102·6° F. and the pulse was 120 and of fair volume. No definite history of injury could be obtained, but she remembered that a swinging door had struck her on the left side some weeks before. About one and a half inches below and to the outer side of the nipple was a very tender bluish spot of the size of a florin. Morphine was injected and boric fomentations were applied. At 9 A.M. there was a distinct gangrenous area about two and a half inches in diameter with large blebs forming over it. The urine was scanty and of specific gravity 1055, and contained a large quantity of sugar and diacetic acid. Milk diet and half a grain of morphine every four hours were prescribed. The gangrene spread until on the 10th there was a line of demarcation around an area six inches long and four inches wide. The temperature ranged from 100° to 103°. On the 11th a fœtid slough was separating and a new focus of gangrene was extending towards the sternum. The general condition was so serious that the case was regarded as hopeless. However, on the 13th the patient was a little better, and a line of demarcation had formed around the new focus which was about three by two inches. The amount of urine increased and on Nov. 1st it contained no sugar. The two areas coalesced into a large discharging one measuring seven by four inches. All sloughs separated and the wound granulated well and healed with a sound cicatrix. It is remarkable that gangrene should have occurred in a part so near the heart where, unlike the foot, there is no difficulty in the circulation. The disappearance of the sugar from the urine is also noteworthy. It has been observed, however, that the supervention in diabetes of some other disease, such as enteric fever, may be followed by disappearance of the sugar from the urine. Possibly the fever which accompanied the gangrene in this case produced a similar result.

[1] THE LANCET, Jan. 25th, 1908, p. 216.

AN EPIDEMIC OF 135 CASES OF ACUTE ANTERIOR POLIOMYELITIS OCCURRING IN VICTORIA IN 1908.

DURING April, May, and June of last year an epidemic of anterior poliomyelitis, far exceeding any previously recorded in the Southern Hemisphere, occurred in Victoria, and Dr. H. Douglas Stephens of the Children's Hospital in Melbourne has epitomised its main features in the *Intercolonial Medical Journal of Australasia* for November, 1908. The disease has been spreading widely during the last four years. In 1905 it was epidemic in Queensland, in 1906 in Norway and Sweden, in 1907 in New York, and in Victoria in 1908. In this last there was a preponderance of male children affected. Nearly two-thirds of all cases occurred in the first three years of life. The disease selected the autumn months (March to June) as the period of greatest incidence, and the majority of cases occurred in children living in the most densely populated suburbs round Melbourne. Dr. Stephens believes that the disease is contagious in a mild degree, and from his observations made during the epidemic he finds the incubation period to be somewhere between three and 16 days, while the invasion stage varies from zero to a week, most commonly from 24 to 72 hours. In seven cases out of 26 recent cases in which lumbar puncture was obtained, cultures of cocci in pairs and tetrads were successfully grown from the cerebro-spinal fluid. These gave a pale lemon-yellow growth, but injection into rabbits and guinea-pigs caused no pus production. Direct examination of the centrifugalised fluid in smears in five cases revealed the presence of poorly staining cocci, extra-cellular, and generally as diplococci, analogous to those obtained by Geirswold in the Norwegian epidemics. Dr. Stephens found in nearly every case a definite history of premonitory febrile illness, and he remarked that in many instances slight cough preceded the onset of the disease. An examination of the

pathological material which he has been able to obtain to some extent corroborates the view of Harbitz and Scheeb that the condition begins by a patchy lepto-meningitis on the anterior aspect of the cord, and that the inflammatory process spreads inwards to the highly vascular grey matter. Out of 135 cases six deaths were recorded, a mortality of approximately 4½ per cent.

THE EDITORSHIP OF THE LANCET.

DR. SQUIRE SPRIGGE, who has been chief of the editorial staff of THE LANCET for 15 years, has been formally appointed Editor.

IN connexion with the Fifth Centenary of St. Andrews University, the "Mater Studiorum" of Scotland, to be celebrated some 18 months hence, a prize of 100 guineas has been offered by Dr. J. P. Steele of Florence for the best essay on "Scotland's Debt of Gratitude to her Parish Schools, her Grammar Schools, and her Universities," the competition to be open to graduates of the four Scottish seats of learning and the conditions to be announced *quam primum*. One of these conditions requires the essay to occupy not more than one hour on being read aloud. The subject is one of interest to all the liberal professions—particularly to the medical, in which the Scottish record holds a place of honour quite disproportioned to her population and her financial resources.

A PRESENTATION of his portait was made to Sir William H. Allchin on March 31st in the board room at the Westminster Hospital. A large number of friends and old pupils have used this opportunity of signifying their high regard for Sir William Allchin.

WE regret to announce the death of Dr. Arthur Gamgee, F.R.S., the well-known physician and physiological chemist, which occurred in Paris on March 29th after a very short illness.

THE DEATH REGISTRATION AND BURIALS BILL.

ON the first of the past month a Bill to amend the law relating to the registration of deaths and to the regulation of burials was presented to the House of Commons by Mr. George Greenwood, with the support of the Right Hon. Sir Walter Foster, M.D., Dr. V. H. Rutherford, Dr. J. G. Shipman, and others.[1]

From an explanatory memorandum we learn that the object of the Bill is to give effect to the principal recommendations put forth by the Select Committee on Death Certification which sat in 1893 under the chairmanship of Sir Walter Foster. That Committee reported that it was "much impressed with the serious possibilities implied in a system which permits death and burial to take place without the production of satisfactory medical evidence of the cause of death. It is a most important duty of society to guard its members against foul play, and it appears to your Committee that, as far as may be, it should be made impossible for any person to disappear from his place in the community without any satisfactory evidence being obtained of the cause of his disappearance. Your Committee, fortified with the weighty opinions of the witnesses who have appeared before them, have arrived at the conclusion that uncertified deaths should, as a class, cease to exist, and that means should be devised whereby a medical certificate should be obtained in every case not certified by a registered medical practitioner in attendance."

This Bill contains, but not always in a fortunate form, several provisions for the improvement of the registration of deaths which, with suitable modifications, we should gladly see placed on the Statute Book, but although based on the recommendations of the Select Committee referred to, the Bill betrays a certain lack of familiarity on the part of the draftsman with the present system of death registration and with what is required for its amendment, having regard to what is either practicable or desirable under existing conditions.

The first clause of the Bill prohibits the registration of any death except under one of the following safeguards—either (1) the proper certification of the cause of death by the regular medical attendant; (2) a coroner's certificate after inquest; or (3) a certificate of verification by the "public certifier of deaths," for the compulsory appointment of which officer in each registration sub-district provision is made in the Bill. In event of the death of a person attended in his last illness by a registered medical practitioner the medical attendant is required to furnish the registrar with a certificate of the fact, as well as of the cause of death. And here it must be noted that under this Bill the present custom of intrusting the medical certificate to the relatives of the deceased for presentation to the registrar is departed from. The certificate is to be sent direct to the registrar, with the intention, presumably, of rendering it a State document, the property either of the Crown or of some public authority to be appointed for the purpose. That this is the intention of the framers of the Bill is clear from Section 3, which provides for the payment of a definite fee for his certificate to the medical practitioner in attendance, whose responsibilities with respect to the case will as a consequence be considerably increased. Under the Bill he will be required to testify not only to the cause but to the actual occurrence of death in each case, and his certificate will not be accepted unless it bears evidence that the practitioner has attended his patient on at least two occasions, one of which must have been within eight days of the death.

A subsequent section of the Bill provides for cases in which no medical practitioner has been in attendance on a deceased person. In the event of the registrar being in doubt as to whether such person has been attended in his last illness by a registered medical man; or in case of his not having received a proper medical certificate within the time limited by the Act; or, again, in case the registrar is dissatisfied with the medical certificate, he is required to communicate with the public medical certifier of deaths, whose duty it thereupon becomes to inspect the body and to furnish the registrar or the coroner, as the case may be, with the necessary "verification certificate."

In the case of a person the cause of whose death is uncertain, or is believed to be due to violence or to other than "natural causes," the medical attendant is required, instead of certifying the death in the usual way, to inform the coroner and also to notify the registrar of his having so done. On receiving this information, and before holding an inquest, the coroner is required to communicate with the public certifier of deaths, who must attend the inquest, and, if satisfied of the fact of death, must furnish the coroner with a verification certificate which will be forwarded by that officer to the registrar, together with his own certificate, for registration in the ordinary course.

Concerning the question of "stillbirths," the compulsory registration of which was strongly recommended in the report of Sir Walter Foster's committee, the only reference contained in the present Bill is to the following effect:—

> For the purpose of the provisions of the Births and Deaths Registration Acts, 1836 to 1901, and of this Act, relating to the registration of deaths and to burials, any stillborn child which has issued forth from its mother after the expiration of the twenty-eighth week of pregnancy shall be deemed to have been born alive and to have died after birth, and not to be a stillborn child, and these provisions shall apply accordingly.

For the appointment of public certifiers of deaths provision is made in the Bill, the only condition of appointment being that the officer should be a registered medical practitioner, and that he should be appointed by the local board of guardians, presumably with the consent of the central authority as regards duties, remuneration, and dismissal from office. It seems strange that almost synchronously with the publication of the recommendations of the Poor-law Commissioners for the universal supersession of Poor-law guardians as the local authorities for purposes of "public assistance" a Bill should be presented to Parliament suggesting an enormous increase in the functions and responsibilities of these much-abused functionaries, whom

[1] See THE LANCET, March 13th, 1909, p. 806.

the framers of the present Bill would apparently desire to invest with a new lease of life.

We have already intimated that, in our judgment, this Bill is badly drawn. Indeed, we can hardly believe that, abounding as it does with manifestly impracticable requirements, it can have obtained in its present stage the approval of the registration authorities at Somerset House. In particular, we note that the time for complete registration of a death is so greatly extended by the Bill that the burial of a body would frequently be unduly delayed. In addition to which the preliminaries to registration appear to be far too complicated for execution by the average type of registrar, whilst the duties imposed on the relatives of the deceased, naturally depressed by bereavement, are unnecessarily vexatious if not impossible of fulfilment. Again, in a measure the avowed object of which is to provide for the safety of the community in this respect, we should have thought that definite arrangements would have been included for the registration of stillborn children. But, with the exception of the indirect reference to the subject of stillbirths previously alluded to, the Bill is silent on the point.

Having said so much by way of unfavourable criticism of Mr. Greenwood's Bill, we gladly accord our approval to two of its chief recommendations, both of which seem to us just and reasonable, but which, we fear, will hardly escape opposition by certain economists of the House of Commons. The first recommendation provides for the appointment of a public certifier of death in each district of England; the other, for the payment of medical attendants for their certificates and for the greatly increased responsibilities they would incur in the event of legislation on the proposed lines. We think that in the present temper of the House either of these provisions would suffice to wreck this or any other measure of the kind unless strongly supported by the Government. It is certain that, on the one hand, the cost of maintaining a corps of "public medical certifiers" would undoubtedly be considerable, but, on the otherhand, by this means alone can the hardly less cost of holding unnecessary inquests as at present be saved to the community. That our national system of registration, which was established in 1837, should now need amendment will occasion no surprise. But before venturing on any piecemeal tinkering with a system under which enormous improvements have been effected in the course of the last 70 years, it is essential that the whole system of registration of births and deaths should be reviewed, with the advice of persons familiar with the merits of the existing machinery as well as its defects. It would appear almost inevitable that the Acts themselves would need practical reconstruction so as, *inter alia*, to provide for the registration of stillbirths and for the acquirement of fuller data respecting both mortality and natality, in order that amongst other important questions the relation of a declining birth-rate and a stationary infantile mortality may be traced to the physical and social conditions of the people.

THE REPORT OF THE AMBULANCE COMMITTEE.

IN December, 1906, Sir Kenelm Digby, G.C.B., K.C., the Earl of Stamford, and Sir William Collins were appointed by the Home Secretary to form a committee "to inquire as to the provision made for dealing with cases of accident and sudden illness occurring in streets and public places within the metropolis, and to report whether any, and if so what, improvements in ambulance provision are necessary or desirable, and how they could be best effected with due regard to efficiency and economy." The incidents which led up to the appointment of the committee are explained in the memorandum appended by Sir William Collins to the report which he signs jointly with his colleagues, although he holds views differing from them affecting important matters of detail. In 1906 the London County Council sought to include in its General Powers Bill clauses enabling it to establish and maintain or to contribute to the establishment and maintenance of an ambulance service for street accidents in London. The House of Commons committee passed these clauses, but the House of Lords committee, though satisfied with the medical evidence as to the need of a good ambulance service, struck them out on the grounds that the financial aspects of the Council's scheme were not made clear in a manner satisfactory to the committee. It was stated, moreover, by Lord Camperdown, the chairman of the committee, in the debate which took place on the third reading of the Bill in the House of Lords that the Home Office was opposed to the Council's scheme. A conference at which the Council, the Home Office, and the police should be represented was then proposed, but the outcome of the discussion seems to have been the appointment of the committee which has now issued its report. This appears two and a half years after the rejection of the Council's clauses in Parliament and eight years after an inquiry by the Council the result of which those clauses embodied, so that it cannot be denied that regrettable delay has taken place, to which the attention of Parliament may usefully be called.

The report in which the committee appointed by Mr. Gladstone explains its views is an interesting but inconclusive document, for unfortunately the committee is not unanimous as to the important question of the selection of a central body to which the duty of organising the ambulance service of London should be assigned. The report, or rather the portion of it for which Sir Kenelm Digby and Lord Stamford must be regarded as responsible, would enlarge the scope of the duties of the Metropolitan Asylums Board so as to include in them the provision of ambulances for accidents and cases of non-infectious illness demanding them, and the working of them with the aid and cöoperation of the police. It will be seen that at the inception of its task the committee was not assisted by the terms of its reference, which we cannot help thinking must have been drawn up without due consideration. Strictly speaking, it was limited to the consideration of the ambulance service to be provided for "street cases" (a convenient term adopted by the committee) in the metropolis. Accidents and illnesses occurring in streets and public places obviously do not include those which take place on private premises, such as factories, docks, and railway stations, and the provision of an ambulance service which would omit the care of these would be absurd. The metropolis is presumably definable as the County of London, but the hospitals to which ambulances transport the sick and injured do not draw their patients from so limited an area, and the scope of the inquiry necessarily included the consideration of the services of the metropolitan police in connexion with the transport of "street cases," services which are not denied when cause for them arises on private property. Now the metropolitan police exercise their duties over an area six times as large as that ruled by the London County Council and over which, moreover, a rate is levied for the maintenance of this important body. Questions, therefore, as to the training and employment of the police with a view to their rendering first aid and assisting in the conveyance of injured persons to hospitals could not be discussed either in their practical or financial aspects without reference to conditions outside the "metropolis." The fact that the use of an ambulance is not likely to be confined to street cases has been referred to, but besides these and accidents on private premises there is the demand for means of transport which arises when the poor patient lying ill at home has to be taken to a hospital. Is he to be left for his relatives to convey him in a cab, or cart, or barrow, all of which have been found by the committee to be the inadequate and sometimes injurious vehicles in general use when emergencies arise? However, the committee has interpreted its duties in a liberal spirit, and, while recognising the limits imposed by the authority appointing it, has made inquiries and suggestions which go beyond them. Its difficulties, however, have not ended there, for it has had considerable divergence of opinion among witnesses to deal with, notably upon a point of great importance in the organisation of an ambulance service—namely, the nature and extent of the service to be rendered by those accompanying the vehicle in order to assist in bringing the case to the hospital.

When we come to consider in detail the topics discussed by the committee we observe that it found in existence the following services: that of the Metropolitan Asylums Board, which without legal sanction deals to some extent with non-infectious cases, and by arrangement with the Commissoner

of Police removes necessitous patients from their homes to hospitals but intervenes rarely in "street cases"; that of the St. John Ambulance Association, which places wheeled litters and other appliances at the disposal of the police and public at 35 stations; 399 litters under control of the police, of which 49 are the survivors of those given by the late Mr. H. L. Bischoffsheim; horsed ambulances belonging to boards of guardians and used almost exclusively for their purposes; and various private and other ambulances and litters owned by dock companies and similar bodies with a view to their own needs. In the City of London it found a recently instituted (i.e., in May, 1907) system of an electric motor ambulance, to which others are to be added, capable of being summoned by means of any of 35 electric street call-boxes, much as a fire-engine is obtained when required, the existing ambulance conveying persons in the western half of the City to St. Bartholomew's Hospital, where it is stationed. This City system constitutes the only publicly organised example of the use of the "rapid ambulance" in London, but the practices prevailing in use in other great cities of England, in Berlin, Paris, New York, and Boston have been studied by the committee, the "rapid ambulance" being the vehicle drawn by horses or propelled mechanically as distinguished from the stretcher or wheeled litter. In addition to such special vehicles as those named the committee finds that the use of cabs, carts, barrows, and other unsuitable methods of conveyance in London is too frequent, that patients suffer through it, and also that it is often due in street cases to impatience, the crowd or the injured person urging the policeman who has the case in hand to "commandeer" the first vehicle obtainable. With reference to the nature of the apparatus for the removal of the street case to the hospital the committee is of the opinion that, given an effective method of summoning it, the rapid ambulance is preferable to the wheeled litter, having regard to the rapidity of its arrival where the patient lies, and of its transportation of him to the hospital. The advantages of its use are increased also by the fact that it admits of skilled assistance and necessary appliances being brought to the patient, to whom assistance, not possible with the wheeled litter, can be rendered during transit.

The nature of the views put forward by witnesses as to the extent of the treatment which should be accorded to the street case may be summarised by saying that some would "bring the hospital to the patient," others being content to convey him with as much speed and with as little preparation as may be consistent with his safety to the hospital. The majority of the views adduced were to the latter effect, including such important opinions as those of Mr. Thomas Bryant and Mr. Henry Morris. The former of these supported his opinion by citing the experience of the Japanese in their late war when no aid but what was immediately necessary was rendered either where the wounded were found or at the field hospitals, but all cases, after the wound had been shut up and covered and bleeding stopped, were taken at once to the base hospitals, this course being pursued with success which was "perfectly astounding." Both the two gentlemen named regarded the sending of a qualified medical man or senior student with the ambulance so as to diagnose or treat the case before removal or *en route* as impracticable and unnecessary, and with this view the committee expresses its concurrence, while pronouncing in favour of the provision of rapid ambulances and proceeding to discuss how they should be provided and organised.

As to the authority which should control the ambulance service the committee had before it the opinion of Mr. Morris that it should be a "street ambulance department of the police," his view being that organised by this central authority the rapid ambulance should reach its destination, bringing a specially trained member of the force who should receive the patient from the policeman on the spot and convey him to the hospital. The committee refers also to the need, dwelt upon in the evidence of Sir William Church, for an ambulance service which would include the transport of poor patients lying ill in their homes to hospitals, and considers that the demand for such a service is established, but that it would add too much to the existing duties of the police primarily connected with the prevention of crime. It finds, however, the Metropolitan Asylums Board already providing means of transit for non-infectious cases, although these are outside its legitimate sphere, and that it has eight "rapid ambulance" stations established for this purpose. In these circumstances the committee formulates recommendations which may be summarised as follows:—

1. That there should be a tentative and experimental introduction of rapid ambulances so organised as to be capable of dealing with cases other than street cases.

2. That the Metropolitan Asylums Board should be authorised by Act of Parliament to apply its funds to the establishment of a service of non-infectious ambulances, and to agree and coöperate with the Metropolitan police for this purpose, special provision being made with regard to portions of the Metropolitan police district lying outside the area under the Metropolitan Asylums Board.

3. That the attendant to accompany the rapid ambulance should be a police officer specially qualified, and the committee consider that the difficulty arising out of the fact that the policeman in whatever capacity he is employed always remains under the authority of the Chief Commissioner is not insurmountable. They suggest that, as at Manchester, when the person to be removed is a female the ambulance might obtain a matron from the police station, at which, according to one suggestion made, it would call, in order to pick up a reserve police officer to accompany it. It may be mentioned that considerable importance was apparently attached in evidence before the committee to the provision of a female attendant for females.

4. The committee recommends the use and extension of the private wires now connecting the central office of the Metropolitan Asylums Board with its ambulance stations and for communication between the constable at the scene of the accident and the ambulance station the use of the nearest available telephone. It does not advise, owing to the cost involved, the adoption on a large scale of the special call-box system now being used in the City, but commends a suggestion that such call-boxes should be placed in some of the busiest thoroughfares and at the most awkward crossings.

5. It considers the training of the police in the rendering of "first-aid" to be on the right lines but capable of improvement, and that their instructions relating to the exercise of their discretion in summoning ambulances should be adapted to any new system introduced.

In this connexion we note the following phrase in Paragraph 118 of the report:—

> In view of the recommendations which we are making we think that the summons of the local doctor in cases of street accidents will be seldom required.

We should have thought that in the event of an apparently serious accident happening, as must sometimes occur, close to the spot where a qualified practitioner is to be found, his services might usefully be requisitioned and that provision might be made for his remuneration in such circumstances. In cases in which the rapid ambulance is about to arrive within a few minutes it would clearly not be desirable to send in search of a medical practitioner who, if found, would be likely to be too late to be of use, but to regard him as non-existent when he is close at hand is another matter.

We now proceed to refer briefly to the memorandum appended to the report by Sir William Collins, who, it must be remembered, although in the minority as to the views which he thus expresses, constitutes "one third" of a committee composed of three members only, and a "third," moreover, pre-eminently endowed with experience relating to (1) the medical and surgical aspects of the questions propounded, and (2) municipal matters. He tells us in his memorandum that he signs the report because he is convinced of the need for action, saying, "As to the urgent necessity for reform the report in no way overstates the case. It establishes the fact that notwithstanding the police policy of extending the provision of wheel-litters, especially in recent years, 60 per cent. of all cases of injured or sick persons conveyed to hospitals in London are brought otherwise than by ambulance or litter. The figures show that in more than one-fourth of such cases definite fault is found with the mode of conveyance, that even in serious cases more than one-third of the sufferers are conveyed by means likely to be prejudicial, that the unsuitable cab is still largely requisitioned, and that actual harm is in 1 out of 3 of the more serious cases attributed to its use." He points out also that except in the City there is no special provision made for summoning even the wheeled litter, and that the use of the telephone for such purpose has not been considered necessary. We may here call attention to the fact that although mechanically propelled vehicles have been with us for some years, and telephones also, it is only recently that a rapid extension of the use of both has taken place, so that the advantages and practicable nature of the combination of the two are now so obvious that they cannot be ignored.

Sir William Collins reviews the circumstances in which the London County Council's proposal to establish an ambulance service was rejected in the House of Lords in 1906, and is of opinion that although it is not possible now any more than then to estimate the ultimate cost of an adequate service of ambulances for London, such a service should be established under the control of the Council, which has already expressed

itself willing to undertake the cost, and, moreover, that it should not be done tentatively, but upon a large scale, by a general introduction of rapid ambulances and not merely their experimental use to supplement wheeled litters. His reasons for preferring the County Council to the Metropolitan Asylums Board as the central authority to control the ambulance service include a doubt as to the desirability of conferring new rating powers upon a non-elective body, which, as he points out, was instituted at a time when no county council was in existence and which was originally constituted as a Poor-law authority. He dwells upon the difficulty suggested by witnesses that however separate the two services of the Board might be kept the public would be prejudiced against these ambulances by fear of infection; he points out that in the necessary establishment of a large number of new ambulance stations the Council would have available sites already acquired by them, but the Board would not. He points out also that the dual authority of Board and police recommended in the report would involve a corresponding duplication of departmental control, by the Home Office and the Local Government Board. He would have the ambulances sent out by the Council to deal with street and other cases accompanied by attendants, the servants of the Council, specially trained and instructed in first aid and in handling the sick, who would take over the case from the policeman, the latter being responsible for the summoning of the ambulance only and for the administration of first aid pending its arrival. In conclusion Sir William Collins says: "As to the body to be intrusted with the organisation of what is practically a new service in London, I am of opinion that having set aside the police as the authority the duty should be entrusted to the London County Council, who have sought powers and evolved a scheme for the purpose, rather than to the Metropolitan Asylums Board who have not. Such new municipal duties, involving new rating powers, should in my judgment be a function of the central directly elected municipal authority of London ..... and while anxious that no difference of opinion on the question of the authority should prejudice the early establishment of this sadly needed service, I believe that efficiency and economy would alike be served by procedure upon the lines which I have ventured to indicate." It will be observed that this recommendation is for the establishment of a service within the "metropolis," in accordance with the terms of the reference to the committee, and that it leaves the authorities outside the county of London to coöperate with, or to follow the lead of, the metropolis as may be desired. It is a recommendation which should carry considerable weight, owing to the source from which it comes, and it has many practical and, we may fairly say, obvious advantages to commend it.

The London County Council is the great municipal body to which Londoners are learning to look naturally for the performance of public work in their interests. The relieving of the police of duties so remote from their usual functions as the transportation of injured and sick persons should commend itself to all practical persons, as should the advantages arising from the employment of attendants specially trained for ambulance service and exclusively employed upon it. Altogether, we are of the opinion that Sir William Collins's memorandum deserves and will obtain consideration from the legislature fully equal to that accorded to the views of his two colleagues on the committee upon the points with regard to which he differs from them, and we hope that in any case the legislation which is so desirable may not long be delayed.

UNIVERSITY OF LONDON.

A MEETING of the Faculty of Medicine, adjourned from March 12th, was held at the University on Friday, March 26th, Dr. SIDNEY H. C. MARTIN, Dean of the Faculty, being in the chair.

The following further recommendations and resolution concerning the suggested Board of the Faculty were passed:—

C.[1]

The Board shall be constituted in each year by a date not earlier than March 1st and not later than March 15th. The Board so constituted shall remain in office until the constitution of its successor. 28 days before the date of the meeting at which the appointment of members of the Board under Clauses (iv.), (v.), (vi.), and (vii.) of Paragraph A above is to be made by the Faculty, the Clerk to the Board shall send to every member of the Faculty:—(*a*) a note of the membership of the Board on that date; (*b*) a statement of the names of the persons recommended by the several Boards of Studies under Clauses (iv.), (v.), and (vi.) of Paragraph A above; (*c*) a notification that nominations for appointment by the Faculty under Clause (vii.) of Paragraph A above must be sent so as to reach him not less than 14 days before the date of the meeting of the Faculty at which the appointments are to be made. The nominations for appointment under Clause (vii.) of Paragraph A above shall be indicated on the agenda paper for the meeting of the Faculty.

That the Board of the Faculty of Medicine be empowered to report to the Senate on any subject within the purview of the Faculty through the Academic Council or through the Council for External Students as the case may be, provided that, if any ten members of the Board at any meeting of the Board request that a question shall be reserved for the consideration of the Faculty as a whole, no action shall be taken thereon until the Faculty has considered it.

That the Principal be authorised to appoint a member of the staff in the office of the academic registrar to act as clerk to the Board of the Faculty of Medicine.

RESOLUTION.

That the Senate be requested to resolve that until further order no action on any of the following subjects be taken by the Senate until they shall have received a report thereon from the Board of the Faculty of Medicine through the appropriate council or councils in accordance with the scheme set out below:—

Subject.	*Appropriate Council.*
(*a*) Recognition of Teachers and Courses of Instruction in Medical Subjects	Academic Council.
(*b*) Medical Curriculum	Academic Council and External Council.
(*c*) Medical Examinations, including Appointment of Examiners	Academic Council and External Council.
(*d*) Admission of Schools in the Faculty of Medicine	Academic Council.
(*e*) Constitution of the Faculty of Medicine ...	Academic Council.
(*f*) Organisation of Higher Teaching and Research in Medicine	Academic Council.

Professor E. H. STARLING proposed, and Dr. F. H. CHAMPNEYS seconded, the following motion, which was carried:—

That the Faculty Board be appointed in July of this year.

The meeting then dissolved.

[1] Sections A and B were passed at the previous meeting (see THE LANCET, March 20th, p. 861).

MEDICINE AND THE LAW.

An Inquest held without Post-mortem Examination.

AN inquest held recently at Falmouth by the county coroner, Mr. E. L. Carlyon, is the subject of a lengthy report in the *Falmouth Packet*, and the story as told by our contemporary is worthy of comment. The inquiry was into the cause of death of a young man, 20 years of age, apprenticed to a boiler-making firm, who was described by his father as a strong, powerful young man who never had had a day's illness, who never tasted intoxicating liquor, and smoked very little. Two months before his decease he was medically examined before admission to a friendly society and on the day preceding it he seemed well, ate his usual dinner and tea, but went out about 9 P.M., and on his return complained that his forehead felt cold and he vomited repeatedly. His mother gave him some tea and brandy and sent him to bed, after which he was heard retching in his room about midnight, and on his father visiting him at 1.30 A.M. he was found to be dead. Dr. G. E. Lanyon who was called in described the condition in which he found the body and gave it as his opinion that the vomiting had caused failure of the heart's action, adding that it was difficult to say why it should have done so, as the deceased was apparently a strong and healthy young man. He added that a possible cause of death might have been the presence of a piece of food in the windpipe, but that the length of time since the deceased had eaten and the absence of any appearance of a struggle negatived this. The father stated that his son had never complained of anything, in reply to a question as to the possibility of his having suffered from a weak heart. The verdict of the jury was to the effect that the deceased died from failure of the heart's action due to vomiting. It is not easy to see of what use an inquest can be in such a case in the absence of a post-mortem examination, and it seems hardly necessary to point out that such an examination would not only have shown the condition of the heart but also might have indicated the cause of the vomiting, for which there was nothing to account except a

statement from the father that his son occasionally suffered from biliousness.

Death under Chloroform.

The case of Shirt *v.* The Calico Printers' Association, Limited, which came before the Court of Appeal on March 26th, was an appeal from a decision of his honour Judge Reginald Brown sitting at the Ashton-under-Lyne county court. It was a claim brought by a widow for compensation under the Workmen's Compensation Act for the death of her husband. The deceased met with an accident arising out of, and in the course of, his employment by his hand being caught between two rollers. The hand was badly crushed, but as there was a slight connexion to supply blood from the forearm the surgeon hoped that he might be able to avoid the necessity of amputating the hand. He accordingly put the man under chloroform and cleansed the hand. The operation, which was described as a bold experiment, was successful and the man was temporarily discharged. In order to prevent contraction, which would have rendered the hand rigid and practically useless, it was necessary two months later to perform the operation of grafting skin. The second operation being painful, though not dangerous, an anæsthetic was administered, under which the man died. The county court judge dismissed the application, but the widow appealed. The Master of the Rolls, in allowing the appeal, said that it was admitted that the deceased was bound to undergo an operation of some kind. It was said that the usual operation would have been to amputate the hand. That, of course, was an operation which would reasonably have involved the use of an anæsthetic, and if the man had in that case died by reason of the administration of the anæsthetic counsel for the respondents admitted that the employers would have been liable. Instead of this an extremely skilful surgeon performed an operation which would preserve the hand and make the man not a maimed man for life but an able-bodied workman, so as to relieve the employers from liability. An anæsthetic was administered at the first stage of the operation with success, but the hand would have been still useless unless a further simple but painful operation had been performed. That was really a second step in one operation which the surgeon thought necessary to perform. The true test was whether the step which was taken to obviate the consequences of the accident was a reasonable step. The county court judge had said that the first operation was a bold one, and though it was successful there was some vice inherent in the transaction because the second operation involved the administration of an anæsthetic which caused death. The learned judge had misdirected himself, for the step taken by the workman was not only courageous but in the interests of his employers, and the case must go back for the judge to assess the amount of compensation.

Looking Back.

FROM

THE LANCET, *SATURDAY*, April 2nd, 1831.

NICOTINE THE ALKALOID PRINCIPLE OF TOBACCO.

MM. Posselt and Reimann have completely succeeded in separating the alkaloid principle which Vauquelin believed to exist in tobacco, but which that distinguished chemist failed to obtain in a separate state. The new substance nicotine, as described by the present authors, is liquid at 6° cent. (44° Fahr.) transparent, of a brown-red colour, of a disagreeable, pungent, odour, like that of dried tobacco, and which is increased by an elevation of temperature. Taste excessively acrid, and remaining long on the tongue. It communicates a greasy stain to paper, disappearing in twelve hours; specific gravity greater than water; volatile in the open air, leaving a small resinous residuum; boils at 246° cent. (460° Fahr.), burns when touched by a lighted taper, and at 100° cent. (212° Fahr.) evolves abundant white vapour. Nicotine is soluble in water in all proportions; the solution is decidedly alkaline, and, diluted with 10,000 parts of water, still preserves its acrid taste. It is equally soluble in alcohol, ether, and almond oil. The etherial solution mixed with muriatic, tartaric, or acetic acids, parts with all its nicotine, and salts, insoluble in ether, are produced. Neutralized by phosphoric acid, the new alkaloid furnishes a colourless sirup, which, when exposed to the sun's rays, affords crystals like cholesterine. The sulphate of nicotine assumes the form of an amorphous mass slightly acid. Finally, with oxalic acid, nicotine forms a crystalline soluble compound. The nitric acid does not unite with, but nearly effects, the decomposition of, this alkaloid.

The analysis of tobacco by MM. Posselt and Reimann has been crowned by the faculty of medicine at Heidelberg.—*Abridged from Geiger's Magazin fur Pharmacie.*

Public Health.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

Enteric Fever at the Royal Marine Depôt at Walmer.—The Local Government Board has issued a very interesting report by Dr. R. J. Reece on an inquiry made at the request of the Admiralty into the prevalence of enteric fever at the depôt of the Royal Marines at Walmer. The depôt comprises three separate sets of barracks, containing 13 blocks in all, together with detached houses for resident staff, married quarters, and a hospital. Young men joining the Royal Marines as recruits are sent here for 11 months' training before being drafted to the Marine headquarters elsewhere. At the beginning of August, 1908, the barracks contained about 1700 persons, of whom 855 were recruits and 218 old soldiers. From August to November enteric fever was prevalent in all three barracks and affected all the recruit-training companies. The barracks are self-contained in a domestic and administrative sense and have separate kitchens as well as separate latrines, urinals, wash-houses, and so forth. 33 recruits were attacked, nine during August and September, and 24 during October and November. Three deaths occurred. The water-supply of the barracks is derived from deep chalk wells which serve a large population in the Walmer and Deal districts, in neither of which was there any comparable enteric fever prevalence at the time. The milk was provided by a contractor who appeared to take precautions against contamination to an extent which is unusual amongst milk-vendors, and there was no reason to suspect the milk, which was pasteurised before delivery. It was clear that the infection was due to a cause specially operating within the depôt, and in the absence of evidence implicating water and milk suspicions were entertained of a large variety of possible agencies, among which were the barrack drainage, which in some cases was defective; various articles of food and drink officially supplied; food brought in by hawkers; clothing sent out for repair; hypothetical "carriers" among the recruits or at the barrack kitchens; infection from visits to places outside or from food and drink taken outside; and infection at the swimming-bath or in the musketry camp.

In order to sort and weigh the evidence in relation to all these possibilities of infection Dr. Reece made a thorough study of the life of the recruit at the depôt and of the movements and duties of the whole of the recruits during the period in question. Special attention was given to the nine first cases, which were distributed among five companies, six barrack blocks, and seven barrack rooms. In the end he was able to indicate the extent to which the various possible agencies of infection might have been concerned, and to point to one of them which seems to have been directly responsible for the majority of the cases, and when account is taken of the evidence of secondary infection in some of the later cases appears to account fully for the prevalence of the disease. This agency of infection was the swimming bath at the barracks. It was used during the period by a limited portion only of the inhabitants of the depôt—namely, certain squads undergoing swimming or life-saving instruction and those who had passed through the course and attended voluntarily. Dr. Reece ascertained that use of the swimming bath two or three weeks antecedent to attack was common to all but one of the first nine cases, while in the large majority of instances

the evidence as regards the later cases was to the same effect. The swimming bath is situated on the sea shore in front of the East Barrack and is filled with sea water by inflow on a rising tide through an iron pipe 12 inches in diameter controlled by a penstock. The water is warmed to 75° F. before swimming exercises by driving jets of steam into the inflow. The intake pipe is on the beach 116 yards to the north of the main outfall sewer which discharges sewage from part of the Walmer urban district and from a portion of the depôt. It is also 500 yards to the north of another main outfall sewer which receives sewage from other parts of the same district and from the rest of the depôt. The bath can only be filled on the flowing tide, which sets northwards along the coast with a direction shorewards along the beach. In calm days at slack water sewage from these outfalls can be recognised as a brown, pear-shaped expanse sharply differentiated from the surrounding sea. Dr. Reece found as a result of many observations that with the flow of the tide this sewage stretched away northward from the outfall, parallel to the beach, in a brown stream. At almost all states of the tide the position of the sewage in the sea could be accurately gauged by the large number of gulls which fed on it. When the bath was filled the water was found to have "an appearance very similar to storm water such as may be seen running in the gutters of a London street after heavy rain." The sediment was in the main rather dark sea sand, but in the lowest layers contained blackish-grey particles which smelt offensively. When 50 recruits are at one time learning to swim in the bath this sediment must be constantly stirred up. Dr. Reece ascertained that at the earlier period of the outbreak the excreta of certain enteric fever patients in Walmer were passing to one of the outfalls in question, and that subsequently to the occurrence of the first cases in the barracks untreated enteric fever excreta of persons falling ill there were passing by way of the North Barrack sewer to the outfall situated about 100 yards from the swimming bath intake. The reader of this report, which is an excellent analysis of complicated circumstantial evidence, cannot fail to reflect on the irony of giving instruction in "life saving" in this swimming bath. It is proper to add that its use was discontinued as soon as suspicions were entertained of its concern with the outbreak.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8489 births and 6253 deaths were registered during the week ending March 27th. The annual rate of mortality in these towns, which had steadily increased in the six preceding weeks from 17·5 to 22·1 per 1000, declined to 19·8 in the week under notice. During the first 12 weeks of the first quarter of this year the annual death-rate in these towns averaged 18·9 per 1000, and in London the mean rate during the same period was equal to 19·8 per 1000. The lowest recorded annual death-rates in these towns last week were 9·4 in East Ham, 10·4 in Smethwick, 10·7 in Devonport, and 10·9 in Leyton; the rates in the other towns ranged upwards, however, to 31·5 in Brighton, 31·6 in Wigan, 36·1 in Great Yarmouth, and 38·9 in St. Helens. In London the recorded death-rate during the week was equal to 21·5 per 1000. The 6253 deaths from all causes in the 76 towns last week showed a decline of 732 from the increasing and high numbers in recent weeks, and included 684 which were referred to the principal epidemic diseases, against numbers increasing from 452 to 725 in the six preceding weeks; of these 684 deaths, 410 resulted from measles, 119 from whooping-cough, 59 from diphtheria, 41 from scarlet fever, 39 from diarrhœa, 15 from "fever" (principally enteric), and one from small-pox. The 684 deaths from these epidemic diseases, in the week under notice, were equal to an annual rate of 2·2 per 1000, against rates increasing from 1·4 to 2·3 in the six preceding weeks; in London the recorded rate from these diseases was equal to 2·1 per 1000. No death from any of these epidemic diseases was registered during last week in Cardiff, Birkenhead, Halifax, Burnley, Northampton, or in six other smaller towns; the annual death-rate therefrom, however, ranged upwards in the other towns to 6·0 in Bootle, 6·9 in Wigan, 9·2 in Aston Manor, and 16·4 in St. Helens. The fatal cases of measles in the 76 towns, which had steadily increased in the six preceding weeks from 188 to 438, declined in the week under notice to 410; the highest death-rates from this disease last week were 5·2 in West Hartlepool, 5·3 in Bootle, 5·8 in Wigan, 8·0 in Aston Manor, and 14·2 in St. Helens. The 119 deaths from whooping-cough showed a further slight decline from the numbers in recent weeks, but caused death-rates equal to 1·1 in St. Helens, 1·2 in York, 1·3 in Preston, 1·6 in Swansea, and 1·9 in Tynemouth. The 59 deaths referred to diphtheria exceeded the number in the previous week by five, and included 18 in London and its suburban districts, four in Southampton, three in Bristol, six in Birmingham, three in Liverpool, and three in Manchester and Salford. The 41 fatal cases of scarlet fever were within one of the number in the previous week, and caused annual rates equal to 1·1 in St. Helens, 1·2 in Aston Manor, and 1·3 in King's Norton. The 39 deaths attributed to diarrhœa were fewer by six than those in the previous week; and the 15 referred to "fever" showed a decline of seven. The fatal case of small-pox was recorded in Bristol. The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had been 2870 and 2596 at the end of the two preceding weeks, had further decreased to 2571 on Saturday last; the new cases of this disease admitted to these hospitals during last week were, however, 327, against 268 and 279 in the two preceding weeks. The registered deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 758 and 651 in the two preceding weeks, further declined to 567 in the week under notice, but exceeded by 223 the corrected average number in the corresponding week of the five years 1904–08. The deaths in London referred directly to influenza last week showed a further increase and exceeded the corrected average by 106. The causes of 53, or 0·8 per cent., of the deaths registered in the 76 towns during last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death registered during last week were again duly certified in Leeds, Bristol, West Ham, Bradford, Nottingham, Leicester, Salford, and in 47 other smaller towns; the 53 uncertified causes of death in the 76 towns last week included, however, 13 in Liverpool, five each in Birmingham and Sunderland, and four both in Manchester and in Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 21·6 and 21·1 per 1000 in the two preceding weeks, further declined to 20·5 in the week ending March 27th. During the first 12 weeks of the first quarter of this year the annual death-rate in these eight towns averaged 19·5 per 1000, and exceeded by 0·6 the mean rate during the same period in the 76 large English towns. Among the eight Scotch towns the death-rate during the week under notice ranged from 16·1 and 17·2 in Aberdeen and Edinburgh, to 23·1 in Greenock and 35·2 in Perth. The 732 deaths from all causes registered in the eight towns last week showed a further decline of 22 from the numbers in recent weeks, and included 80 which were referred to the principal epidemic diseases, against 96 and 87 in the two preceding weeks; of these 80 deaths, 52 resulted from whooping-cough, eight from diphtheria, eight from diarrhœa, five from scarlet fever, four from "fever," and three from measles, but not one from small-pox. These 80 deaths from epidemic diseases were equal to an annual rate of 2·2 per 1000, corresponding with the mean rate during the same week from the same diseases in the 76 English towns. The fatal cases of whooping-cough in the eight Scotch towns, which had been 67, 55, and 51 in the three preceding weeks, were 52 last week, of which 37 occurred in Glasgow, five in Edinburgh, four in Dundee, and two both in Aberdeen and in Paisley. The eight deaths from diphtheria were fewer by four than those in the previous week, and included four in Glasgow and two in Dundee. Of the eight deaths attributed to diarrhœa, showing a further decline from the numbers in the two previous weeks, five were returned in Glasgow. Four of the five fatal cases of scarlet fever occurred in Glasgow, as did all the four deaths referred to "fever," of which two were certified as enteric and two as cerebro-spinal meningitis. The three deaths from

measles slightly exceeded the numbers in recent weeks. The deaths referred to diseases of the respiratory organs in the eight towns, which had steadily increased in the seven preceding weeks from 131 to 187, declined again to 180 in the week under notice, but exceeded by 47 the number returned in the corresponding week of last year. The causes of 23, or 3·1 per cent., of the deaths registered in the eight towns last week were not certified; in the 76 English towns the proportion of uncertified causes of death last week did not exceed 0·8 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had steadily increased in the four preceding weeks from 24·3 to 29·3 per 1000, declined again to 27·2 in the week ending March 27th. During the first 12 weeks of the first quarter of this year the death-rate in the city averaged 25·7 per 1000, whereas the mean rate during the same period did not exceed 19·8 in London and 18·1 in Edinburgh. The 208 deaths of Dublin residents from all causes during the week under notice showed a decline of 16 from the increasing numbers in recent weeks, and included 10 which were referred to the principal epidemic diseases, against 17 and 13 in the two preceding weeks. These 10 deaths were equal to an annual rate of 1·3 per 1000; the rate from these epidemic diseases in the same week was equal to 2·1 in London, and did not exceed 0·9 in Edinburgh. Of the 10 deaths from these epidemic diseases in Dublin last week, five resulted from measles (corresponding with the number in each of the three preceding weeks), two from whooping-cough, and one each from diphtheria, "fever," and diarrhœa, but not one either from scarlet fever or small-pox. The 208 deaths registered during the week included 32 of infants under one year of age and 73 of persons aged upwards of 60 years, differing but slightly from the numbers in the previous week. Five inquest cases and two deaths from violence were registered last week; and 89, or 42·8 per cent., of the deaths occurred in public institutions. The causes of seven, or 3·4 per cent., of the deaths in Dublin last week were not certified either by a registered medical practitioner or by a coroner; in London the causes of all but one of the 1989 registered deaths were duly certified; while in Edinburgh 5·1 of the causes of death were uncertified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet-Surgeons: E. C. Lomas, D.S.O., to Haslar Hospital; W. J. Colborne to the *Leviathan*; J. Menary to the *Magnificent*; and H. X. Browne to the *Ramillies*. Staff Surgeons: C. T. Baxter to Haslar Hospital, as anæsthetist and radiographer; J. H. Lightfoot to the *Cochrane*; L. Lindop to the *New Zealand*; and S. T. Reid to the *Antrim*, on recommissioning. Surgeons: C. J. O'Connell to the *Roxburgh*; T. D. Liddle to Haslar Hospital; H. B. Hill to the *Leviathan*; L. C. Hunt to the *Cæsar*; and G. C. Cross to the *Leda*.

ROYAL ARMY MEDICAL CORPS.

The date of transfer from seconded list of Lieutenant-Colonel James Will is Feb. 28th, 1909, and not as stated in the *Gazette* of March 2nd, 1909. Lieutenant Marcus Graham Dill, from the seconded list, to be Lieutenant (dated March 14th, 1909).

Captain R. H. Bridges, on return from India, has been posted to the Cambridge Hospital at Aldershot for duty. Major J. Thomson, from Woolwich, has been placed on the list for service on the West Coast of Africa.

INDIAN MEDICAL SERVICE.

The King has approved of the following promotions:—Lieutenant-Colonels to be Colonels: Charles Fancourt Willis (dated Nov. 14th, 1908) and William Alfred Corkery (dated Jan. 1st, 1909). Captains to be Majors (dated Jan. 28th, 1909): Jasper Maxwell Woolley, Clayton Arbuthnot Lane, Thomas Bernard Kelly, William Hamilton Kenrick, Charles Henry Watson, Edgar Francis Eardley Baines, George Orr Fern Sealy, Samuel Anderson, Francis Hope Grant Hutchinson, James Leslie Marjoribanks, Alexander Fenton, and Robert Welland Knox. Lieutenants to be Captains (dated Sept. 1st, 1908): Edgar John Cecil McDonald and William Dundas Wright; (dated Feb. 1st, 1909): Harry William Pierpoint, Khandu Ganpatrao Gharpurey, William David Henderson Stevenson, Henry Patullo Cook, William James Fraser, Desmond Charles Villiers FitzGerald, Robert Siggins Kennedy, Bernard Higham, Charles Aubrey Godson, Reginald Henry Lee, Patrick Heffernan, Henry Stewart Hutchison, Robert George Gibbon Croly, Stanley Trefusis Crump, William Barbour Alexander Kennedy Cullen, and James MacGregor Skinner.

The King has also approved of the retirement of the following officer: Colonel James McCloghry (dated Jan. 13th, 1909).

TERRITORIAL FORCE.

Yeomanry.

King's Colonials: Surgeon-Lieutenant William Savile Henderson, from the King's Colonials Imperial Yeomanry, to be Surgeon-Lieutenant, with precedence as in the Imperial Yeomanry (dated April 1st, 1908). Royal Wiltshire (Prince of Wales's Own Royal Regiment): Surgeon-Captain Oliver C. Maurice to be Surgeon-Major (dated March 5th, 1909).

Infantry.

9th Battalion, The King's (Liverpool Regiment): The announcement of the transfer and promotion of Surgeon-Major John William Ellis, which appeared in the *London Gazette* of Oct. 6th, 1908, is cancelled. 4th Battalion, The Lincolnshire Regiment: Surgeon-Major George M. Lowe is granted the honorary rank of Surgeon-Lieutenant-Colonel (dated March 31st, 1908).

Royal Army Medical Corps.

London Mounted Brigade Field Ambulance: Major (Honorary Major in the Army) Charles Stonham, C.M.G., from the Royal Army Medical Corps (Territorial Force), to be Lieutenant-Colonel (dated March 5th, 1909). Henry Robinson to be Lieutenant (dated March 5th, 1909). Alexander Findlater to be Lieutenant (dated March 5th, 1909).

2nd East Anglian Field Ambulance: Dudley William Boswell to be Lieutenant (dated Jan. 2nd, 1909).

1st Highland Field Ambulance: Arthur Kellas to be Lieutenant (dated Feb. 2nd, 1909).

1st Home Counties Field Ambulance: Bertram Charles Alexander Leeper to be Lieutenant (dated Jan. 1st, 1909).

2nd Northern General Hospital: The appointment of Edmond Fauriel Trevelyan to the rank of Lieutenant-Colonel bears date July 7th, 1908, and not as stated in the *London Gazette* of Feb. 23rd, 1909.

5th Northern General Hospital: Officer whose services will be available on mobilisation: Captain Robert Stewart to be Major (dated Feb. 24th, 1909).

For attachment to Units other than Medical Units.—Captain Edward L. Paton to be Major (dated Sept. 7th, 1908). Octavius Roberts Ennion to be Lieutenant (dated Dec. 31st, 1908). Alexander Dingwall Kennedy to be Lieutenant (dated Jan. 27th, 1909).

The colonel and officers of the 3rd South Midland Field Ambulance of the Royal Army Medical Corps entertained the Bristol Unit of the corps at a supper on March 20th. Lieutenant-Colonel A. W. Prichard, replying on behalf of the corps to a toast proposed by Captain F. A. Stephens, stated that the corps had risen to its full strength within a year of its inception, and that it was the first corps in the kingdom to become complete without having a bearer company to start with. The origin of this success was rightly analysed by Captain Stephens who spoke of the patriotism of the city in general and the keenness of the officers of the corps. He also alluded to the kindness of Colonel Woodward and the 4th Battalion of the Gloucestershire Regiment in allowing the corps to share the same headquarters, and said that the unit was fortunate in having so many men with a previous Volunteer training, as well as a number who had served as Regulars.

The Army Council has intimated to general officers commanding that the working of the Territorial Medical Service in last year's training season reflects great credit upon all concerned for its thoroughness in face of the many difficulties inseparable from the early stages of reorganisation.

DEATHS IN THE SERVICES.

Surgeon-Major William Galt Black, A.M.S. (retired), on

March 22nd, aged 85 years. He joined the 11th Foot Regiment (now the Devonshire Regiment) as surgeon-major prior to the Crimean war and served through that campaign. He was present at the battles of Alma, Inkerman, and Sebastopol. He afterwards served in Africa and retired from the service in 1883.

VISIT OF THE PRINCE AND PRINCESS OF WALES TO OSBORNE.

On March 27th the Prince and Princess of Wales paid a visit to Osborne. In the evening Fleet-Surgeon C. J. Mansfield, R.N., amongst other officers, had the honour of dining with the Prince and Princess. During the afternoon of March 28th their Royal Highnesses visited the Osborne House Convalescent Home for Officers.

The *Army and Navy Gazette* in its issue of March 27th says:—"We have already alluded to 14 medical officers on the full-pay list having to be provided for by the abolition of retired officers in recruiting and other billets. We are now informed that six additional full-pay officers, on reduction of the medical strength in Malta owing to the absence of fever, will also have to be provided for, probably by more retired billets being placed at their disposal."

Correspondence.

"Audi alteram partem."

TIN IN CANNED FOODS.

To the Editor of THE LANCET.

SIR,—I have just read in THE LANCET of Feb. 6th, p. 411, the notice of the recent work issued by the English Local Government Board (Medical Department, No. 7) on the presence of tin in certain canned foods. The subject of tin and other metals in canned foods has long been a matter of interest in this country, and to show the importance of this problem I may call your attention to the action of the National Canners' Association of the United States in convention at Louisville, Kentucky, during the first week in February. At that convention numerous articles were read on the contamination of tinned goods, both with tin and other objectionable metals, and resolutions were adopted looking to the betterment of conditions in this line, especially in the coating of the tin plates. It is not my intention in addressing you, however, to discuss this problem in any technical way, but to say a word in regard to the results of the investigations which are reported in the official document of the Local Government Board No. 7, to which I have just called attention. The authors of this paper have kindly sent me a copy thereof and I have been much interested in the character of the work done, the thorough manner in which the investigators have gone about it, and the careful control of all the conditions of the investigation. The remarks on the methods of detection and estimation of metals in tinned foods are of particular value to analysts everywhere. The study of the action of the acids of fruits, &c., upon the plate is also full of interest, likewise the summary of the pharmacology of tin is of value to all who are investigating the subject.

This all brings me to the crux of what I desire to say. The pharmacological experiments conducted by Dr. S. B. Schryver were carried out upon himself and upon dogs. Dr. Schryver describes himself as being in normal health. The last paragraph in the third conclusion of Dr. Schryver's paper is as follows:—

> They (the experiments) do not indicate much probability of serious risk of chronic poisoning by the absorption of non-irritant compounds of tin as a result of a diet which consists largely of canned foods and is continued over considerable periods of time.

It appears to me that this paragraph might have been well omitted. Assuming as true that Dr. Schryver experienced no ill effects from eating tin and that the dogs were not injured by their diet of tin, it seems unwise to assume that it is practically a harmless substance. It is true without doubt that if a drug be administered in foods which injure healthy persons, it is certain that it is not a suitable substance to be put in foods. But drugs may be put in foods which during a short time do not appreciably injure the health of healthy persons, and yet that is no reason why they should be permitted. Dr. Paul Ehrlich lately said in an address before the German Chemical Society: "It is not enough simply to inject every new remedy into the bodies of animals; in order to obtain more valuable data on the action of the remedy the animal must be sick or be made sick before the drug is tested upon it." In the light of this testimony Dr. Schryver should not intimate that tin salts are not injurious until he has tried them upon infants, sick people, and convalescents. There are millions of people who eat canned foods besides Dr. Schryver, and of these millions a very large percentage have disordered digestion, are not in good health, and are not in a condition to resist toxic effects of even small quantities of tin.

Medical men, in my opinion, should not make statements which may be used, although they are not intended to be so used, to promote and protect, what Judge Anderson of the Federal Court at Indianapolis recently termed, "immoral practices in food preparation." Judge Anderson in one of the cases which was argued before him, in which benzoic acid had been used in foods, referring to the statements of experts that it was not injurious to health, said that he did not care whether it was injurious to health or not; there was a difference of opinion on this subject and the court would not attempt to decide; but further than this he stated that "the use of benzoate of soda is, as the evidence shows, primarily for promoting the utilisation of low grade, partially decayed, and waste materials, and hence it is used for immoral purposes and should not be permitted." The danger which comes from this conclusion of Dr. Schryver is that in the effort which is now making in this and other countries to secure better packages for canned goods those who use imperfect packages, poor tin, exposed solder, &c., will quote just such opinions as this as a justification of their acts. I would not insinuate for a moment that Dr. Schryver had any such purpose in view, but experts, and especially medical experts, it appears to me, should be extremely careful to so guard their expressions as not to see them used thereafter to protect practices which should be restricted. For my part I can see no possibility of any good ever coming from such a conclusion. Nobody wants to eat tin salts, whether they have injured Dr. Schryver or not. Every high grade manufacturer wants to keep them out of his goods and everyone who is a guardian of the public health should lend his aid to every effort of this kind and discourage every effort of the opposite kind.

That investigators should have a perfect right to express the results of their investigations no one will deny, but if, in the expression of these results, encouragement of the continuance of improper practices may be given it would be a wiser thing on the part of the investigator to withhold them from publication. The words of the Apostle are most excellent in this case—"All things are lawful unto me, but all things are not expedient" (I Cor. vi. 12).

I am, Sir, yours faithfully,
H. W. WILEY, M.D.

Washington, D.C., U.S.A., March 16th, 1909.

PROPOSED LEGISLATION IN REGARD TO THE ADMINISTRATION OF ANÆSTHETICS.

To the Editor of THE LANCET.

SIR,—Now that the question of legislation to control the administration of anæsthetics is definitely before Parliament (*vide Times*, March 26th) it is important that the whole medical profession should realise and express an opinion upon the first point which will have to be settled—i.e., who shall and who shall not administer a general anæsthetic. All thoughtful persons seem to agree that if we are to reduce the number of accidents in connexion with the use of these agents the first step must be to decide who shall be intrusted with their administration. A line must be drawn somewhere and it is for the three interested parties—the public, the medical profession, and the dental profession—to come to some understanding on this specific point.

The recent correspondence in your columns, Sir, has disclosed the unfortunate fact that, at all events amongst members of these two professions, there is considerable difference of opinion. On the one hand, we have those who would draw the line, so to speak, below the medical qualification, making it a penal offence, with certain common-sense

provisos, for anyone but a legally qualified medical practitioner to administer *any* general anæsthetic. This we may call, for purposes of description, the larger policy. On the other hand, we have those who would make an exception in the case of registered dental practitioners and would allow them to administer nitrous oxide for dental operations. This we may speak of as the smaller policy. At the present juncture, which is one of far-reaching importance, these two policies are before us and it is our duty carefully to consider which of them should be adopted. We must put aside all personal and class considerations and have as our fixed objective the greatest good of the greatest number. The public expects, and the two interested professions should be prepared to provide, the best possible safeguards against those risks which are inseparable from the employment of all agents administered with the object of producing unconsciousness during surgical operations. I regard it as an idle quibble to argue that because nitrous oxide is the safest general anæsthetic it should become the subject of special legislation. It is an agent which, administered in its pure form, is irrespirable, on the average, for more than one minute. In certain cases—e.g., angina Ludovici, Hodgkin's disease, sub-lingual abscess, tracheal pressure from an enlarged thyroid or other causes—it may be more dangerous than any other anæsthetic. Many years ago, in the operating room of a well-known dentist, I had to perform laryngotomy under pure nitrous oxide in order to restore respiration which, owing to certain abnormal conditions in the upper air-tract of the particular patient, could not otherwise be re-established. Only last year, whilst administering nitrous oxide and oxygen for a dental operation to a patient whose tongue had been removed and whose power of swallowing had thereby become interfered with, respiration ceased owing to the entry of fluid secretions into the larynx, and it was only with the greatest difficulty that I was able, with the efficient assistance of my colleague, to restore respiration. Again, in various pathological conditions of the cardio-vascular system nitrous oxide may, under certain circumstances, be an unsuitable or even a dangerous anæsthetic. Apart, however, from any immediate circulatory risk attached to its use there is a certain amount of evidence that when administered so as to produce a greater or less degree of cyanosis this anæsthetic may impose an undesirable and possibly a permanent strain upon the heart. In his admirable work "Anæsthetics, their Uses and Administration," fourth edition, p. 115, Dr. Dudley W. Buxton says: "The heart seems seldom primarily affected, but if feeble and asthenic it is certainly liable to fail should the respiration be in any way hampered, so that syncope can thus be brought about and may prove fatal." I am not for one moment wishing to act as an alarmist in regard to nitrous oxide. I fully admit it is the safest known general anæsthetic and that when administered *in appropriate cases* and *by appropriate methods* it is practically free from risk to life. But as I am firmly convinced, after many years' experience of dental practice, that in order to secure the greatest safety under this agent it is necessary that the administrator should not only have had ample clinical experience in its administration, but at least that amount of training in general medicine and surgery demanded by the General Medical Council of candidates before their final *medical* examinations, I shall, I fear, never be able to see my way to support the smaller of the two policies now before the profession. What greater argument in favour of the larger policy could there be than the fact referred to by Mr. Morton Smale on March 11th last when presiding at the annual general meeting of the Royal Dental Hospital of London, that over half a million nitrous oxide administrations had been conducted at that institution without a single death? Who conducted this vast number of administrations with such conspicuous success? The reply to this question is that acting in the public interests the Royal Dental Hospital of London has always obtained the services of medical men as anæsthetists. With this object-lesson before us, would it be right to depart from such a well-tried custom? Whilst fully admitting that the general medical and surgical training of the present generation of dentists is perfectly adequate so far as the practice of pure dentistry or dental surgery is concerned, I contend, with no disrespect whatever to anyone, that that training, as specified by the General Medical Council, is inadequate for the protection of the public against the risks of general anæsthetics, including nitrous oxide.

Were it impracticable to supply the public throughout the country with well-trained medical men the case would be totally different. One argument which the supporters of the smaller policy are constantly advancing is that, speaking generally, the average dental practitioner is more competent to administer nitrous oxide than the average medical practitioner. I admit that at the present moment there may be some truth in this contention. It could easily be arranged, however, that before any Act came into force all medical students and all medical practitioners who would under the new *régime* be called upon to administer nitrous oxide for dentists should make themselves thoroughly competent administrators. As I have before stated, there is an immense amount of unutilised clinical material at our dental hospitals and in the dental departments of our general hospitals which could easily be requisitioned for educational purposes, in order to supply the public, by the time that any Act came into force, with medically qualified and fully experienced administrators of nitrous oxide.

Another argument is that the dental profession would suffer by the proposed change. I contend, however, that precisely the opposite would be the case. In the first place, it must be remembered that no proposal has been made to interfere with any vested interests: all registered dentists in practice at the passing of the Act would have the right to administer anæsthetics in the future. Secondly, the constant association of medical men with future dentists in anæsthetic cases would enable the latter to do greater justice to the essentially surgical part of their work, whilst they would certainly not lose in prestige by such an association. Thirdly, the decided blow which would be dealt to unregistered dental practice—for no unregistered dentist could either administer an anæsthetic or have one administered for him—would increase the practice of the registered practitioners. And here let me say a word with regard to the communication forwarded to you, Sir, by the staff of the Incorporated Dental Hospital of Ireland.[1] If their suggested amendment to Clause I. of the General Anæsthetics Bill were adopted all registered dentists not *medically* qualified would become entitled to administer anæsthetics not only in dental but in general surgical operations. Surely this is going rather far. That aspirations in this direction are, however, in the air is obvious from a letter in your issue of the same date, the writer of which, a dental practitioner without a medical qualification, administers nitrous oxide for operations by his surgical colleagues. This same correspondent, I regret to note, seems to favour the practice of dentists administering nitrous oxide and then operating, with only an "attendant" present. I have already pointed out that out of the 12 fatalities which have afforded such ample material for criticism in your columns no less than 11 took place under such circumstances. I would repeat that this is one of the strongest arguments in favour of the larger policy. If dentists are to be legally recognised as competent to administer nitrous oxide for dental operations this dangerous single-handed practice will undoubtedly persist. It is to be hoped, therefore, not only for this reason but for the others to which I have referred, that advantage will be taken of the present opportunity to place an essentially medical function in the hands of those who, by their medical training, are most fitted to exercise it. I take it that whatever decision may be arrived at on the point in question by the various medical and dental associations, academic institutions, and societies no legislation will take place without the full and final sanction of the General Medical Council, and I sincerely hope that that Council will, when the time arrives, give its unqualified support in the direction I have indicated.

As to the inclusion of local anæsthetics in any legislative measure there is doubtless great difficulty. I quite agree with Dr. Buxton that it would be of advantage to the public if some such restrictions could be enforced, but the insertion of the words he proposes at the particular point he describes in Clause I. of the General Anæsthetics Bill would, I fear, render the meaning of the clause somewhat obscure, and at the same time hardly provide against the particular risk in question—that of injecting cocaine and allied substances. At the same time it might be found possible, after careful

[1] THE LANCET, March 20th, 1909, p. 867

consideration, to provide against these risks by some slight addition to the Bill. I am, Sir, yours faithfully,

FREDERIC HEWITT.

Queen Anne-street, W., March 30th, 1909.

THE BROMIDE TREATMENT OF EPILEPSY.

To the Editor of THE LANCET.

SIR,—I have read with great interest the excellent address of Dr. James Taylor on Some Points in Treatment of Nervous Diseases published in THE LANCET of March 27th. It contains many practical suggestions on the treatment of some common diseases of the central nervous system which cannot fail to be of use to the general practitioner. I, however, do not quite agree with the author in the prominence which he gives to what is usually described as the bromide treatment of epilepsy, which is probably the commonest of all nervous diseases met with in practice. Dr. Taylor regards bromide as our "sheet anchor" in epilepsy, by which disease I presume he means idiopathic epilepsy. He quite properly points out that such treatment is not unattended with certain dangers—for example, "acne" and "cardiac depression." There is, however, a still greater danger—namely, the production of cerebral depression caused by the chemical action of the drug on the delicate cortical neurons. Such action has been aptly described by Professor Mott as resulting from *chemical restraint* of the nerve cells. It has been asserted that the prolonged administration of bromides is liable to incite changes in the cortical nerve cells indicating some degree of chomatolysis and even complete dissolution. Clinical observers in many of our largest asylums have noted that the continuous bromide treatment of their epileptics, whilst certainly tending to reduce the number of fits, produces in many cases that gravest of all mental diseases, dementia. It is, therefore, not surprising that in some of these institutions bromides are never used in the treatment of epileptics. Recent research points to the etiological factor in epilepsy being dietetic in nature, especially as regards the calcium metabolism of the body. Consequently it is advisable to place these patients on a farinaceous rather than a carbohydrate diet, and clinical observation proves that decided benefit results therefrom. Further, the daily administration of magnesium sulphate (℥i. doses) is found to have a beneficial effect. It is known that intraspinal injection of a solution of this drug causes paresis of the limbs, and apart from its laxative action it may be possible that its prolonged use results in diminishing in some way the conductivity of the efferent tracts. Other points to be remembered in the treatment are suitable occupation, exercise, and warm baths, which latter are of use when the fits are very frequent. I would therefore arrange the points in treatment in order of their importance thus: (1) Dietetic; (2) occupation and exercise; (3) warm baths; (4) magnesium sulphate; and (5) bromides.

I am, Sir, yours faithfully,

W. J. MAGUIRE, B.A., M.D. R.U.I., M.R.C.P. Irel.

Belfast, March 29th, 1909.

THE EXTENSION OF THE USEFULNESS OF COTTAGE AND OTHER HOSPITALS: A SUGGESTION.

To the Editor of THE LANCET.

SIR,—It frequently occurs in the experiences of most general practitioners—especially those in outlying country districts—that poor patients are attacked with sudden illness which necessitates prompt surgical interference. Their removal to the nearest hospital over rough and dangerous roads, probably in an unsuitable vehicle, often adds to their sufferings and minimises their chances of recovery. Many a precious moment, and I may say many a valuable life, has been lost by this procedure. But what alternative has the general practitioner to suggest? The slender purse of his patient forbids the summoning of a consulting surgeon and a trained nurse, or if he is able to procure an anæsthetist he possibly feels himself incompetent to perform single handed some rare major operation. I may enlist your sympathies when I say that I reside some 14 miles from the nearest medical man, and when one or two of my experiences have been related the remedy which I suggest will be more readily understood.

During the last 12 months my partner and I have been called upon to perform 11 major operations, and fortunately all but three were able to pay the usual fee. But what about the three? It was as much as their lives were worth to attempt to remove them to a hospital; the rough approach to their moorland homes, the nature and acuteness of their illness, and the absence of an ambulance or suitable vehicle forbade it. One case—a case of ruptured ectopic gestation—occurred at a most outlandish farmhouse with an impossible approach. With operating bags we had to wade through huge snowdrifts over ground where it was quite impossible to take a horse, much less a trap. As the internal hæmorrhage in this case was severe every moment was of importance, and as the nearest hospital was some 28 miles away and the roads were impassable the only thing to do was to operate "at home," and this we did. The patient made a rapid recovery and was well and about in six weeks. On Feb. 13th I was called to see a poor man's wife and acute appendicitis was diagnosed, probably with perforation. The total earnings of her husband were 24*s.* weekly, and in every way she was a suitable case for hospital treatment. Her removal was out of the question, as the peritonitis was rapidly spreading and delay was dangerous; moreover, the distance from hospital was some 22 miles. Fortunately, I was able to obtain an anæsthetist who motored over and brought a trained nurse with him, and with the nurse as my assistant I performed appendectomy, removing a very offensive and gangrenous appendix. The patient is doing well up to the present, but her only chance lay in the operation being performed "on the spot" with as little delay as possible. But the expense is far too heavy for their little income—the taxicab, the anæsthetist, and a trained nurse for at least a fortnight.

To my mind, something ought be done by all public hospitals for those patients with limited means who are not as fortunate as their fellow-sufferers in towns who happen to reside within the "call" of the ambulance. Let me suggest that all public hospitals, especially those which draw their patients from large agricultural districts, should establish a fund to be called "The Out-patient Emergency Fund"; this fund to be expended in providing for an operation in cases of emergency unfit for removal and suitable for hospital treatment. Could not some hospitals arrange that their surgeons should be motored out to such cases as I have described, the expenses to be charged to the fund? The surgeon, if necessary, could take with him the hospital anæsthetist and a "theatre" nurse, or where the surgeon did not require an assistant the general practitioner would give the anæsthetic. The medical men in attendance on these cases ought to be privileged to "wire" to the nearest hospital for assistance, using a code word as may be agreed upon—for example, I should suggest some such message as this, viz.: "—— Hospital, York. OPEF. Appendectomy. Jones, Castlegate, Church Fenton. Dr. Roberts." The code word OPEF. would signify that it was a poor patient entitled to the benefits of the Out-patient Emergency Fund; the second word would give the probable nature of the operation, and the following would give name and address of patient and medical man. The hospital authorities might even go so far as to provide a fortnight or three weeks' surgical dressings, according to the nature of the operation.

Of course, it would be necessary to safeguard against the abuse of such a scheme, and to do this effectually the surgeon should have the right to refuse to operate on his arrival if he thought the emergency not sufficiently great or his patient unsuitable for hospital treatment. Looking at it from the hospital's point of view, the expense would not be any greater than if the case was admitted to one of their beds. The cost of the motor hire would probably be equivalent to a patient's three weeks' board in hospital, taking an average. I find it possible to hire a taxicab for a distance of between 20 to 25 miles, to remain an hour or two before returning, at the cost of 2 guineas for the round trip. This would mean that, for example, a case of perforated gastric ulcer could be dealt with by an experienced hospital surgeon at a distance of 20 miles and two or three weeks' dressings supplied at a total cost of about 3 guineas to the emergency fund. Then all the patient would be called upon to provide would be the usual visiting fees of the general practitioner and occasionally (where the services of the district nurse could not be obtained) the

charges of a trained nurse for a week or two. This would remove the onus of heavy expenditure which poor country people are often called upon to meet in such cases, and it would also greatly enhance the chances of the patient's recovery. Exception cannot be taken to operating in such surroundings as the country cottager can provide, as I believe that the pure country air, with its freedom from septic micro-organisms, is far preferable to the germ-laden atmosphere of a "theatre" in a general hospital, however saturated it may be with antiseptic vapours. One can quite credit the result obtained in the "proverbial Cæsarean section" performed in a woodman's hut with the aid of a pocket-knife and "wax-end" for ligatures.

Finally, I appeal to hospitals generally, and to cottage hospitals in large agricultural districts in particular, to give some such scheme their earnest consideration. I feel sure that they would enlist the sympathies and support of their honorary surgical staff, and by so doing they would be conferring a blessing on the suffering poor in country districts and be offering a valuable privilege to the general practitioner.

I am, Sir, yours faithfully,

G. METCALFE SHARPE.

Angram, Middlesmoor, Leeds, March 19th, 1909.

THE CLINICAL VALUE OF HÆMOMANOMETER OBSERVATIONS.

To the Editor of THE LANCET.

SIR,—In my letter in THE LANCET of March 13th I dealt with the two sets of observations made by Dr. Leonard Hill and which he held absolutely disproved my contentions that the arterial wall was ever a factor in hæmomanometer observations. In the first set of observations I compared the obliterating pressure in the posterior tibial when the whole body was horizontal with the pressure when the limb was in the "L position, the leg up." If language has any definite meaning this meant that the limb was at right angles to the trunk, and yet in his letter in THE LANCET of March 27th he says "their legs were hoisted up to unequal extents." He further says: "The whole point of this experiment is that the measurements in arm and leg came out fairly well in comparison with the column of blood separating the two places of measurement." My contention is that it was simpler and fairer to compare the pressure when the limb was horizontal with what it became when vertical, and his own figures showed in the three subjects that the change to the vertical led to loss of pressure in one subject of 21 mm. Hg, in another of 48, and in a third of 62. Dr. Hill has not met this criticism fairly, for if the limbs of the three subjects differed so much, as he now suggests, he got the height of the column of blood extraordinarily near each other. In fact, it was, apparently, the similarity of the figures he succeeded in getting that led him to contend that the manometer reading was blood pressure, and blood pressure only. Dr. Hill's explanation of the phenomenon is not complete. I have made corresponding observations on the forearm when horizontal and vertical, and find corresponding differences without any difference in the length of the arm as measured from the axilla. Dr. Hill need not therefore run away from his observations, but as proofs against my contention that the arterial wall when thickened affects the amount of pressure required to obliterate the artery they fall to the ground.

With regard to the second set of observations, I pointed out that Dr. Hill could only get the venous pressure as high as the arterial by his method of investigation, as he stopped any further engorgement on the distal side of the bag on the forearm when he reached the arterial obliteration pressure. This I still maintain to be a quite apparent fallacy in his method. With regard to his criticism of my method, firstly, the wristlet I used was not an "unenclosed bag," but enclosed in the same way as the armlet; secondly, I could repeat Dr. Hill's observations up to the point at which the artery was obliterated with the wristlet applied to the entire circumference of the arm; thirdly, I have found that when the wristlet was applied to a radial artery winding to the back of the wrist I could obliterate it with a pressure of 30 mm. Hg less than was required to obliterate the brachial by the armlet; and fourthly, when applied to a venous trunk the same must be true. I maintain that my method measures the venous engorgement pressure, while Dr. Hill's cannot do so. From Dr. Hill's criticism I might imagine I had made an important physiological discovery in finding that venous engorgement pressure can rise far above arterial pressure had I not found that Professor Starling in his eighth Mercers' Company lecture on the Fluids of the Body gives experiments on an animal in which at the beginning the artery gave a pressure of 110 and the vein 140, then, when the arterial pressure was reduced to 50, the venous pressure rose to 175—*over three times the arterial pressure.* Here, again, in his desire to find me wrong he has forgotten observations with which I presume he is more or less acquainted; and commits himself to the view that my findings would "seriously upset the ordinary laws of physics," ignoring thereby the further fact that we are dealing with vital phenomena, not physical laws. The *impossible* to physiology, as represented by Dr. Hill, again becomes demonstrable fact! And Dr. Hill's second set of observations in no way weaken my contention with regard to the arterial wall.

I shall only deal with one other point in his letter, for I decline to be drawn into an extension of the area of controversy, and that point is that Dr. Hill says that I "maintain the view that the heart has no reserve power to withstand a pressure of more than about 20–30 mm. above the normal." I nowhere have made any such statement. The reference is apparently taken secondhand from Dr. Williamson, who referred not quite accurately to an argument in my book based on Dr. Hill's own statement in Schäfer's "Physiology," that after violent exercise the blood pressure rose 20–30 mm. with a "normal average heart." Dr. Hill further adds that "physiologists know that the blood pressure can easily be doubled in an animal by the injection of suprarenal extract." Had he referred to my book, which he says he has read, he would have found that I had not overlooked that fact, but that I had added that to get this pressure *the vagus had to be cut.* I have not troubled to refresh my memory as to whether that statement also was or was not taken from Dr. Hill's own writings; but I presume it is well known to experimental physiologists, and, if so, why did Dr. Hill suppress the fact? Other statements equally inaccurate occur in the letter, but I have neither the time nor the inclination to deal with them, even if you, Sir, were willing to allow me space in the pages of THE LANCET for the purpose. If Dr. Hill really seeks enlightenment on clinical and pathological phenomena I should be charmed to help him, but as a preliminary a more accurate knowledge of my writings, which he professes to have read, would be desirable.

I am, Sir, yours faithfully,

Edinburgh, March 27th, 1909. WILLIAM RUSSELL.

To the Editor of THE LANCET.

SIR,—Dr. Leonard Hill in THE LANCET of to-day asks whether the arm and leg readings which I obtained in pathological cases were "measured simultaneously, with one armlet on the arm and the other on the leg connected with one manometer, and the observer feeling radial and posterior tibial at the same time." In the 21 high-pressure cases and ten cases of normal or low blood pressure without evidence of arterial disease, of which the results will shortly be published, the leg and arm readings were made successively.

I quite admit that to draw conclusions from one case in which arm and leg readings are made it is essential, as Dr. Hill says, that the readings should be made simultaneously. I believe, however, that in taking the average difference from a large number of cases as I have done any error due to the arm and leg readings not being simultaneous will be eliminated. That this is so is I think sufficiently shown by the fact that in my series of cases of normal or low blood pressure without evidence of arterial disease the average difference between the systolic arm and leg readings is less than two millimetres, and that both this series and that of cases of high blood pressure yielded on the average an identical diastolic arm and leg reading.

Since completing my paper, however, I have made simultaneous arm and leg readings on five high-pressure cases, and in four of these have found the leg readings to be distinctly higher than those on the arm; moreover, in two of the cases the difference was a very marked one. I have in these adopted both the above method recommended by Dr. Hill and another plan. In this the armlet on the leg is connected with one manometer, that on the arm with another.

One observer reads the arm manometer and feels the pulse in the arm, whilst the other at the same time reads the leg manometer and feels the pulse in the leg. By this means one is able to make, as by Dr. Hill's method, simultaneous readings on the arm and leg, and it is, I think, a more accurate procedure than his, for it is difficult for one observer to feel two arteries at the same time so as to be able to appreciate any but marked differences between the times at which the two pulses reappear after these have been obliterated. However, I have found that the two methods yield substantially the same results. One word more. Dr. Hill says that his colleagues the clinicians have not affirmed that they have felt such rigid contracted arteries as Dr. Russell describes. I would say in regard to this that, although originally strongly biassed against Dr. Russell's views, the more observations I make on cases of arterial disease the more I am convinced that his published clinical observations on these cases are correct. However, it is the rule in medicine that original observations like those of Dr. Russell are slow to be accepted.

In regard to the observations on blood pressure after forced exercise, I am extremely interested to hear that Dr. Hill has obtained pressure readings as high as 220 millimetres. Perhaps the fact that his highest readings are considerably higher than any which I obtained is accounted for by the fact that by means of his new sphygmometer he is able to take the reading more quickly than is possible by the ordinary armlet method.—I am, Sir, yours faithfully,

OLIVER K. WILLIAMSON.

Upper Berkeley-street, W., March 27th, 1909.

THE THERAPEUTICS OF RADIUM.

To the Editor of THE LANCET.

SIR,—While appreciating the importance of Dr. N. S. Finzi's communication on the above topic which appears in THE LANCET of March 20th, I would point out that no attempt is made to elucidate the reactive changes which bring about the dissociation of the combined proteid elements of the tissue cells, for which these emanations are well known to have a selective proclivity—viz., the neuron which is of the highest molecular complexity and the neoplastic cell of lowly organisation. No mention is made as to the method of estimating dosage by filtration or the nature of the media used. The first observations made with radium were necessarily made under conditions of filtration, which for efficiency of action have of late been eliminated. While on the other hand this method has been adopted with advantage for x ray effects, both deep and superficial. In a contribution to THE LANCET of Jan. 26th, 1907, I made an attempt to throw some light on the therapeutics of this subject controlled by a series of opsonic estimations against the bacillus of tuberculosis, since when my observations have received confirmation by Dr. Lawrence and Dr. Crane of the United States of America and by M. Paoli and M. Nuncioni of Italy.

The wealth of clinical results that have accumulated during the past few years by empirical treatment, urgently call for scientific elucidation, on the precise lines I have endeavoured to suggest—namely, by opsonic estimations whenever this is practicable. The index to the bacillus neoformans is invariably either low or excessively high during active cell proliferation in cancerous processes, and in a recent case of mine, during retrogression of the growth under the influence of the x rays, applied exclusively to the lymphatic glands, the index came up to within the normal range. By this statement I do not desire to imply that this organism is the sole causative factor, but that it plays a part in association with the causative factor, whatever this may be, is not improbable.

As far back as in 1881 the late Professor Huxley[1] announced the fact that "pathology is the analogue of the theory of perturbations in astronomy, and therapeutics resolves itself into the discovery of the means by which a system of forces competent to eliminate any given perturbation may be introduced into the economy. It will, in short, become possible to introduce into the economy a molecular mechanism which, like a very cunningly contrived torpedo, shall find its way to some particular group of living elements and cause an explosion among them, leaving the rest untouched." A remarkable prediction now being fulfilled.

I am, Sir, yours faithfully,

H. D. MCCULLOCH.

New Cavendish-street, W., March 23rd, 1909.

[1] Address at the International Medical Congress held at York, 1881 See Huxley's Memoirs.

CONVENTION OF THE AMERICAN SOCIETY FOR THE STUDY OF ALCOHOL AND DRUG NARCOTICS,

HELD AT WASHINGTON, D.C., U.S.A., ON MARCH 17TH, 18TH, AND 19TH.

(FROM A SPECIAL CORRESPONDENT.)

The Alcohol Question in the United States.

ALTHOUGH the Society for the Study of Alcohol and Drug Narcotics was the first medical association in the world formed for the purpose of studying alcohol and the diseases following its use from a scientific point of view, and its organ, the *Journal of Inebriety*, has been in existence since 1876, yet the legislative control of persons addicted to alcohol in excess is still very inadequate in the United States.

It is for the purpose of enunciating the scientific bases upon which must be constructed the edifice of legislative and social control of the drink evil that this association met in Washington during the commencement of the Sixty-fourth Congress and the *régime* of the new President, Mr. Taft. The great wave of "Prohibition" which has passed over the South during the previous five years has prepared the public and the legislators for a serious consideration of the means of controlling what is felt to be a menace to the future of the nation. Indeed, to this theme the Presidential address of Dr. MARCY of Boston was limited. He stated that in the North temperance came gradually, whereas in the South it was being brought about by legislation. Economic forces were at the root of the movement, although these had enlisted the active support of the moral forces which always opposed alcoholic excess. The movement needed leaders, not mere theorists, and for the practical teaching physicians were required. The Society for the Study of Alcohol endeavoured as an organisation to represent the spirit of service which would eventually be required for national life. The impelling motive in the South arose from its rapid industrial growth at the end of the reconstruction period after the termination of the civil war. For this growth the efficiency of the labouring population must be maintained. Of the 36,000,000 population of the South 20,000,000 were negroes; and of the remaining 16,000,000 80 per cent. were native born Southerners whose education had in the main been greatly interfered with as a consequence of the poverty following the war. The educated leaders had seen the need of imposing a restraint, and pending education Prohibition was suggested. The movement was very early supported by newspapers and in the counties cross-road drinking shops were abolished. In Georgia, before state prohibition was declared, 120 out of 145 counties had already excluded saloons. The vote for the measure was opposed in the House by only seven out of 134 members, and in the Senate by 39 out of 139. The measures prohibited the manufacture, sale, and keeping in shops of all intoxicants; even druggists and physicians might keep only pure alcohol, and might supply only one pint upon one prescription, which could not be repeated. But the law was nullified greatly by its not forbidding the importation of wine, beer, and spirits from outside the State. (Your correspondent is informed that 20,000 car loads were imported last year alone into Georgia.) In Alabama, however, not only had there been county and State prohibition (the Bill for which passed with only three dissentients) but an Anti-shipping Bill was passed with but five dissentients. In Mississippi the law was similar, with the difference that although sacramental wine and home brewing were not unlawful no one might be in possession of more than two quarts of liquor. Oklahoma became a state during the Prohibition movement and had the most drastic of all the laws, for a medical man who was convicted of prescribing alcohol for other than medical purposes might be sentenced to

imprisonment. Of the non-Prohibition states in the South very few counties remained without restrictions. Even in Kentucky, the centre of whisky manufacture, all the counties but four had restrictions. In Tennessee only a few towns were exempt. In West Virginia 33 out of 55 counties had Prohibition; in Virginia, 46 out of 100, as well as 20 partially; in North Carolina, 66 out of 97. In Atlanta, the chief city in Georgia, railway accidents had diminished 20 per cent. since Prohibition had been introduced. The arrests for drunken and disorderly conduct were only 66 last year, a colossal diminution, and the race riots had entirely ceased. None of the Prohibition measures had been party questions, both Democrats and Republicans participating. The real efficacy of Prohibition was proved by the great diminution of internal revenue stamps which had caused the discharge or transference to other work of a number of employees in the Government printing office in Washington. It should not be forgotten that prohibition to be real must conform to public sentiment and this could not be maintained by abstract teaching in school.

Dr. CROTHERS, the secretary of the association, perhaps the best known figure in the American movement against inebriety, in discussing the future of the alcohol problem, said that the Prohibition movement did not depend upon hysteria but was a universal consciousness of the evil of inebriety. The movement against alcohol was not a moral but a physiological one. Alcohol had a future as a fuel for the small engine. This was the direction that the liquor interests should follow so as to meet the demand when the saloons had been abolished.

Dr. BARIGHT (New York) stated that America was 15 years behind Germany, which had declared the uselessness of alcohol in medicine.

After a statement that it was the fusel oil which made it useful in snake poisoning, Dr. WILLIAMS (Washington) stated that recent research has shown the entire inefficacy of alcohol as an antidote to snake poison. He urged a conservative attitude towards the use of alcohol in therapeutics, believing that much careful experiment in the laboratory of the pharmacologist and at the bedside by therapeutists was still required.

Dr. PARKS (Georgia), editor of the *Altruist*, stated that recent court decisions with regard to what is known as "near beer" had much diminished the benefits which Prohibition first brought in Atlanta. This preparation contained a good deal of alcohol, and was being largely consumed since its sale had been pronounced legal.

Dr. KELLY (New York), in discussing the alcohol problem in everyday life, highly commended a series of magazine articles which Dr. Henry Smith Williams had communicated to *Maclure's Monthly*. Dr. Kelly thought that alcohol should be classed with cocaine as a dangerous drug. From his operative experience as a gynæcologist he knew the pernicious effects of moderate drinking. Alcohol was the most common cause of the lack of moral training in childhood.

Dr. ROSENWASSER (Newark, N.J.), chairman of the New Jersey Commission on Crime and Dependency, disagreed with prohibition. Local option was worse still.

Mr. CRAFTS (Maine) stated that no human regulation could be universally enforced: the law did not prevent murder, thieving, or forgery, but it diminished them. Prohibition diminished drunkenness.

In discussing the rational treatment of inebriates, Dr. ROSENWASSER laid great stress on communal effort. He animadverted upon the fact that at present only those who were already drunkards could be admitted for treatment, and that no accommodation was made for voluntary applicants. Retreats should be supplied for early hopeful cases. The criminal acts of epileptics, too, were a sufficient cause for commitment in most States. Why should not the same principle apply to the victims of alcohol? The early segregation of modern treatment had improved the prognosis of insanity, and a similar procedure would even more improve the prognosis of inebriety.

Dr. KELLOG (Battle Creek) agreed that the chronic inebriate was a neurasthenic with disturbed metabolism. The remedy was not to regard inebriety as a vice but to treat it medically as a physical perversion.

Dr. KEISTER (Virginia), in discussing the effect of alcohol stated that in the Boer war the Boers who displayed much stamina took no alcohol, while Sir Frederick Treves had said that in the march of the British army to relieve Ladysmith during the great heat the men who dropped out were the drinkers of alcohol. In the United States there were 3,500,000 hard drinkers, of whom 125,000 died annually, 5000 by suicide. Alcohol cost the country incalculable sums of money; it was responsible for 85 per cent. of the crimes, 75 per cent. of the paupers, 50 per cent. of the insane, 40 per cent. of liver and kidney diseases, and 75 per cent. of fashionable ailments. 60 per cent. of the children who were in epileptic, imbecile, or reform institutions were the descendants of drunken parents or grandparents.

The difficulties in the way of preventing this national danger were indicated by Dr. WILEY, chief chemist of the U.S. Bureau of Agriculture, who related his experiences in helping to make and to enforce pure food laws which now compelled all medicines that contained alcohol to be labelled with the percentage they contained. Dr. Wiley's assistant spoke of the prevalence of the so-called "soft drink" habit in the Prohibition States of the South where cocaine and caffeine were sold under more than 100 fancy names and created innumerable victims among the factory and shop girls, soldiers, and clerks. Another source of the drug habit was the sale of drugs by post in secret packages as a cure for various habits, and diseases and as headache powders. To a circular sent to 856 physicians asking them to report cases of addiction to such drugs 814 replied and reported cases of poisoning, with 28 deaths and 136 cases of habitual use.

In reply, Dr. ROSENWASSER declared that the sale of these alleged cures was merely an excuse to make money by selling at a high price to habitués the drugs for which they craved but which they could not legally obtain otherwise. He declared that these firms were doing a good business in spite of the exposures which were made some time ago in the lay press. The government chemist stated that they could stop this illicit traffic if a united medical opinion declared itself against the pretensions of the dealers. A Bill was at present before Congress to prohibit the inter-State traffic in habit-forming drugs except wholesale to pharmacists. If this were disallowed and pedlars were prohibited the individual States would be able to control the problem within their own borders.

(To be continued.)

MOSQUITOES AND MALARIA: A CAMPAIGN THAT FAILED.

(FROM A SPECIAL CORRESPONDENT.)

A LEADING article dealing with the Story of Malaria in Mauritius, which appeared in THE LANCET of March 27th (pp. 926–28), recommended anti-malarial measures chiefly directed towards mosquito extermination at an annual cost of £9000. As these recommendations are based on the favourable results obtained consequent to observance of the same procedure at Ismailia, the Federated Malay States, Hong-Kong, and the Panama Canal zone, no doubt the record of an instance of failure in India will not be without interest to the medical advisers of those administering fever-stricken localities before they recommend large expenditure of public funds for what may produce doubtful results. Lahore Cantonments (Mian Mir) when selected as an area for British troops in the pre-Mutiny days was a healthy station, free from marshes and situated on a dry sandy soil 700 feet above sea level. During the process of inhabitation it was irrigated to improve its grass and vegetation, and 40 years after the Mutiny we find it densely grown over with vegetation and closely irrigated. The inhabitants, both civilian, military, and native, were intensely afflicted with malaria. In 1901, at the instance of the Sanitary Commissioner, the Government of India appointed two experts in the subject of malaria prevention—Major S. P. James and Captain S. R. Christophers, I.M.S.—to visit Mian Mir, and an active campaign was undertaken against the breeding-places of the anopheline mosquito. This campaign proceeding strenuously and continuously for years received a most intense and unexpected stimulus on the appointment of General Walter Kitchener, C.B., to command the Lahore Division in 1904, and neither money nor labour was spared. General Kitchener threw himself heart and soul into the work and the following measures were carried out.

(1) Large works of surface drainage were carried out by the Royal Engineers and irrigation was completely abolished throughout the cantonment; (2) with the abolition of irrigation every canal, ditch, and channel which had been used for that purpose was filled up permanently, and every pool and depression within half a mile of any house in the cantonment was also filled up, levelled, or drained; and (3) mosquito brigade measures were not discontinued when the experiments of Major James and Captain Christophers were over, but were extended with great thoroughness throughout the cantonment. An interesting feature of the campaign was the employment of all the British and native troops of the garrison (about 2000 in number) on the work of filling in the canals and ditches. That the experiment has been effected at great sacrifice to every inhabitant of the cantonment none who visits it can doubt, for the abolition of irrigation resulted in the almost total extinction of gardens. In experiments of this kind there is a danger that the restriction of cultivation and the compulsory abolition of nearly all vegetation will restrict the amenities of life to such an extent as to render the cantonment uninhabitable by man. It will be remembered that the method upon which Major James and Captain Christophers relied for ascertaining whether there has been an increase or decrease in larvæ and adult insects depended upon the fact that (to an observer who is skilful in detecting these insects and who has regularly collected them in specified places) a decrease or increase in these places must be obvious. This test still remains the best that has been employed in any anti-mosquito operations, the only other which has been used being what is called "the general consensus of opinion," which means, of course, the opinion of the irresponsible and untrained crowd. Major James has now given us his conclusions in a communication read before the Bombay Medical Congress; he does not think the problem of whether there has occurred a diminution in the number of larvæ in the cantonment needs discussion, because it is certain that by the abolition of irrigation, the filling-in of all pools and depressions, and the other works mentioned the number of breeding-places has been enormously reduced.

Mosquito birth-rate.—Major James did not see the condition of the cantonment during the rains of 1908, but at a visit in October, although he searched the most likely parts of the cantonment every day for four days, he could find only three breeding-places, and only one of these—a burrow-pit situated at a distance of more than half a mile from the nearest house in the cantonment—was of considerable extent. He thinks there can be no doubt that, to quote an expression often used by Professor Ronald Ross, "the birth-rate of anopheline mosquitoes" in the area has been enormously reduced. To the question whether there has been a marked reduction in the numbers of anopheline adults he cannot give such a satisfactory answer.

Statistics.—Whatever may be the opinion of those who are willing to believe that a simple statement of the admission-rates from malaria during periods before and after anti-mosquito operations have been conducted is sufficient proof of the success of the operations, Major James feels sure that everyone in India is too well acquainted with the fallacies inevitable in such statistics to be content with such a form of proof. And if one can provide no other evidence than hospital statistics, these should be subjected to a very careful and detailed analysis before being regarded as of any value. In the Statistical Office of the Government of India there are great facilities for an analysis of this nature, and as regards the statistics of Mian Mir, Major James (who is the Government official responsible for medical statistics in India) caused one to be made. He is afraid even the most strenuous advocate of anti-mosquito operations could not infer from it either that the diseases which some years ago would have been diagnosed as malaria have been markedly reduced, or that the general health of troops in the station has been greatly improved. While Major James believes that these statistics are the most accurate that can be obtained, it is necessary to point out that no official statistics regarding malarial fever represent at all accurately the true prevalence of the disease among troops. During October, 1908, more than half the British soldiers in Mian Mir were either admitted into hospital or were being treated as out-patients for malarial fever alone, to say nothing of the admissions for "debility" the result of that disease; but even this statement represents very inadequately the havoc wrought by the epidemic. There are many British and native soldiers who do not report that they are ill unless it is quite impossible for them to carry on their duties, and it is probable that among such men the proportion infected with malaria parasites is high, because "a touch of fever" is regarded very lightly by them. Owing to this practice of not reporting sick unless quite incapacitated it often happens that the true condition of a regiment is not apparent unless the regiment is suddenly called upon to perform a march.

Examination of children.—Major James dealt lastly with the prevalence of malaria as shown by the examination of native children in bazaars. In his first report on the anti-malarial operations in Mian Mir a number of results were given which had been obtained in October, 1901, for the purposes of this test by Dr. J. W. W. Stephens, Captain Christophers, and Major James in their preliminary survey of Mian Mir Cantonment. The figures which are of importance at present are reproduced from the first report and are as follows:—

Locality,	Time of year.	Percentage of children infected with malaria parasites (endemic index).	Per cent. with enlarged spleens (splenic index).	Number examined.
	1901.			
British Infantry Bazaar.	October.	51	80	25
Royal Artillery Bazaar...	,,	35	75	28
Native Cavalry Lines ...	,,	24	36	25
Syce Lines "A"	November.	56	48	25
Syce Lines "B"	,,	20	20	25

For the whole cantonment the actual numbers and percentage worked out as follows:—

Date.	Number of children examined.	Number infected with malaria parasites.	Number with enlarged spleens.	Endemic index.	Splenic index.
October and November, 1901.	128	48	67	37·5	52·3

These figures are of permanent value because it must be obvious that if anyone eventually succeeds in extirpating, or materially reducing, malaria in Mian Mir, such a result will be evident by a great reduction in the figures. It may also be said that until a marked and permanent reduction in the figures occurs no one should be entitled to say (whatever hospital statistics may appear to show) that the malarious nature of the cantonment had been materially improved. Anti-mosquito operations have now been carried on continuously in Mian Mir for more than six years, during more than three of which irrigation has been entirely abolished, and one was entitled to expect that by this time, if the operations had been successful, the figures would have fallen almost, if not quite, to zero. No serious objection has been, or can be, urged against the value of this test as a means of proving whether anti-malarial operations have been successful or not, and it was therefore natural that when Major James visited Mian Mir with the object of confirming, if possible, the favourable accounts regarding the success of anti-mosquito operations in that cantonment, he should turn to it first.

For the last three years it has been the practice to give quinine twice weekly not only to all troops and followers but also to their families and to the children in the bazaars. During Major James's visit he found that a hospital assistant was on duty solely for the purpose of administering quinine to children in the British infantry and Sudder bazaars. In the lines of native regiments the quinine was administered to the children by the hospital assistants attached to the different regiments. Major James, being aware of the arrangements and having seen the children in the native

cavalry lines receive their doses, was surprised to find so many children heavily infected with malaria parasites.

Disappointing results.—Major James has drawn up the following tables regarding parasite and spleen rates in Mian Mir since anti-malarial operations were begun in that cantonment:—

I.—*Mian Mir as a Whole.*

—	October, November, 1901.	October, 1908.
Parasite rate per cent. (endemic index)	37·5	81
Spleen rate per cent. (splenic index)	52	69
Number examined	For parasites, 128	For parasites, 147
	For spleens, 128	For spleens, 147

II.—*Specified Localities in Mian Mir.*

—	—	Oct., 1901.	Oct., 1902.	Oct., 1903.	Oct., 1908.
British Infantry Bazaar	Endemic index	52	41	—	68
	Splenic index	80	69	77·5	64
Royal Artillery Bazaar ...	Endemic index	55	20	—	78
	Splenic index	75	64	64·5	—
Royal Artillery Hospital, Followers and Syce Lines	Endemic index	56	—	—	80
	Splenic index	48	—	60	85
Native Cavalry Lines ...	Endemic index	25	—	—	85
	Splenic index	36	—	—	55
Native Infantry Lines (Dogras)	Endemic index	—	—	—	96
	Splenic index	—	—	—	79
Native Infantry Lines (Pioneers)	Endemic index	—	—	—	83
	Splenic index	—	—	—	74

From whatever standpoint these figures are regarded the answer is as unequivocal as it is disappointing. It was hoped that it might at least have been possible to say that the anti-mosquito operations had mitigated, though they had not prevented, the epidemic, but if we consider for a moment that although many of the children whose blood was examined had undoubtedly been taking quinine at least once a week, parasites were present in the blood of from 68 to 95 per cent., we must conclude that the difference between a prevalence of this degree and one which is worse is inappreciable. In this opinion Major James feels sure that he will be supported by medical officers at Mian Mir who were able to observe the terrible havoc wrought by the disease among troops and followers in the cantonment.

The lessons to be learned from the Mian Mir experiments are extremely important from the point of view of the military authorities and from that of administrators in general. It is not intended to refer to them here. The authorities (who aimed, of course, at the prevention of malaria) have carried out a system which has not only proved ineffective for the purpose they had in view, but has resulted in reconverting the cantonment into the arid desert which it was 50 years ago. In view that the results of these operations may tend to arrest enthusiasm in the great cause of the prevention of malaria, it may be noted that anti-malarial measures and mosquito-destruction measures are not, and have never been, synonymous terms, except to those who regard the latter as the only method of value for reducing malaria; and that in Major James's opinion enthusiasm in the anti-malarial cause is not arrested by the somewhat rare instances when the *truth* regarding failure in mosquito-destruction operations has been proclaimed, but by the more frequent ones when success in such operations has been reported on evidence that will not bear criticism and is often ridiculous.

Captain Christophers, speaking on Major James's paper, said they knew from Panama that they could deal with malaria, but what they wanted to know was which particular method was the best. In Mian Mir he thought that they had set about it in the wrong way, and that instead of having a campaign against mosquitoes they should have pushed the use of quinine.

A CRISIS IN THE WATER-SUPPLY OF CAIRO.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

AN UNPOPULAR WATER-SUPPLY.—A CHORUS OF COMPLAINTS.—A SINISTER WARNING FROM BRESLAU.—EXTENSIVE CONSUMPTION OF UNFILTERED NILE WATER AND ITS RISKS.

Cairo.

OF the numerous sanitary problems that have to be studied at Cairo, the drainage scheme which has just been accepted and sanctioned seemed likely to hold the first place in the public mind. A few hours in Cairo sufficed, however, to show that in forming this opinion I was quite mistaken. Outside the official circle no one really knows anything about the scheme for laying sewers in Cairo. Most persons content themselves with the expression of vague apprehensions which are, however, easily quieted by the conviction that this is still a question for the future. The public is somewhat sceptical, however, as to that future being very immediate. The present is the tenth or twelfth project for draining Cairo, and in spite of assurances year after year to the contrary nothing whatsoever is done. Indeed, what was the use of talking about drainage schemes before sufficient water was provided to flush the drains. On the other hand, everyone, from the highest to the lowest, is intensely interested in this question of a water-supply. Most persons have an opinion, generally a very strong opinion, on the matter, and on all sides there is a great clamour demanding immediate action. So widespread is the interest taken that the water-supply is no longer merely a sanitary and scientific problem. It has acquired a political and sentimental aspect with which it is now necessary to reckon. Among the native population there is a superstition against drinking what they denominate "dead water." They will often prefer to drink extremely foul surface water to a pure water coming from underground where they say it is dead and buried. Thus from the very beginning there was a prejudice against the present supply, because it is pumped out of wells. So much is this the case that when the first complaints were made they were left unheeded, being attributed merely to this prejudice. In a little while, however, the Europeans who had no special reason for objecting to well water also began to complain and now it may be said that everyone is dissatisfied. Consequently, I had hardly reached Cairo when first one person, then another, and finally quite a chorus of people expressed their hope that I would investigate the question of the water-supply. Egyptians and Europeans are all eager in regard to this matter, and some did not fail to express themselves with considerable bitterness of feeling.

The present difficulty is due to the abandonment of the Nile as the direct source of supply for Cairo—indirectly almost all water in Egypt is Nile water. Obviously, the Nile waters are often contaminated, and it was also equally evident that the methods of filtering employed at Cairo were defective. It was therefore dangerous to drink the Nile water. The fact that an employee at the Nile filtering works at Alexandria died from cholera helped to create a scare. The present water-supply of Cairo is the outcome of panic rather than of a very complete and deliberate investigation. It happened that at Tanta, a town which is half-way between Cairo and Alexandria, and which has a population of 60,000, wells had been dug to a depth of 150 to 160 feet, which yielded a very good water-supply. This water was pure and free from bacteria; and the inhabitants, in spite of their preference for the Nile and surface waters, soon recognised the merits of the new supply and were quite content. The Government then thought something similar might be done for Cairo and made borings near the National Hotel, but the results were unfavourable. At Rod-el-Farag, some couple of miles down the Nile, and beyond Cairo they found what seemed to be very good water. For a whole year pumping operations were carried on here to see if the supply would diminish and it did not. The Government then proposed to the Cairo Water Company that it should transfer its works to Rod-el-Farag, dig a large number of wells, cease filtering the Nile water, and supply well water in its stead. This was done, and a few days ago I visited the installation.

There are in all 22 wells, but they are not all finished.

At present 19 wells are in working order. As the primary object was to avoid drinking the Nile water I was surprised to find that the wells are all along the bank of the Nile, and this, too, after the river has passed through Cairo. Four of the wells are close to the river and the others are at a distance of 330 yards from the water's edge. The wells follow the river in its northerly course and are separated one from the other by a distance of about 88 yards. The water company only owns a strip of land 12 metres wide running the length of the 22 wells. On either side of this strip the land is cultivated and manured. There are a village and an old Mohammedan cemetery close to the wells. Each well consists of a 13-inch wrought-iron bore-pipe, going down a distance of 30 metres. The various portions of this pipe are joined together by being screwed into an iron socket to render them thoroughly water-tight. Below and for a distance of another 30 metres is the intake. This consists of a tube-shaped frame on which are affixed three layers of gun-metal wire gauze that act as a strainer or rough filter. Two tubes were inserted. Along the inner tube was put the wire strainer. Outside of it some fine sand was introduced. Then the tubes being removed the water enters after passing through the layer of sand and the gun metal wire gauze strainers. But, of course, the water does not flow in an absolutely horizontal line towards these 30 metres of intake tubing. The action of the pumping must draw down the water from a higher level. Therefore, it cannot be said that the water is taken 30 metres below the surface of the soil, the level at which it enters the tube. Further, it is natural to suppose that the more frequent and energetic the pumping the higher will be the level from which the water is drawn down. The soil above consists first of a deposit of Nile mud. It is the fertile earth mud of the Nile and descends a depth of about 4 metres. Then come some 2½ metres of light clay mixed with sand. Below this there is sand, some of it very fine sand, with occasional layers of gravel.

Thus we have at a depth of 30 to 60 metres 30 metres of intake pipe. Above there are 30 metres of water-tight pipes which are the pump-pipes, and these empty into a main syphon-pipe connected with all the wells. In this main the waters from the different wells mix; but above each well there is an inspection chamber where there is a valve, by which the connexion with any one of the wells can be cut off, so that the supply from that source ceases. The hardest pumping, I was assured, would not reduce the level of the water round the pipes more than 1½ metres. But if the level of the subsoil water is not reduced more than a few feet, may not some of the water obtained have travelled downwards from a greater distance, and have come from points further removed from the wells? Obviously, the well water is Nile water which has changed very considerably in consequence of the distance it has travelled through the soil. Its character now depends on the nature of the soil through which it passes; and it seems to me that the extent of this catchment ground will of necessity vary according to the amount of water pumped out. The first trial well which was constructed yielded 5000 cubic metres of water per day. When eight wells had been dug and brought into operation the yield per well was less, and this was attributed to their proximity to one another. It was therefore decided not to sink wells with less than 80 metres between them. Even under those conditions the amount of water that each well would yield was no longer estimated at 5000 cubic metres, but 4000 cubic metres per well were set down as the normal quantity that might be expected. It does seem to me that there was not sufficient forethought displayed as to the possible effects of increasing the volume of water extracted, seeing that when the catchment ground was extended the quality of the water might be altered with the quantity. Because one well yields 5000 cubic metres per day of good water, it does not follow that 22 wells, sunk close to each other, are going to yield every day between them some 88,000 cubic metres of water of identically the same quality. Again, it would seem as if the fear of pathogenic bacteria was allowed to eclipse all other considerations. The water was hard; it was found to contain some manganese and some iron, which increased as the number of wells increased, but this was considered inoffensive.

In a short time it became evident that this well water was not only hard but that it was extracting iron out of the pipes through which it passed. At times, notably in the baths, the water was found full of heavy matter in suspension and quite dirty in colour. No one had ever complained of iron in the Nile water nor had any accidents happened to the delivery pipes when they were used to carry the Nile water. But now that the well water travels in these pipes all kinds of mishaps occur. The fact is that deposits take place in the pipes and these are washed away by any irregularity in the running, such as by a sudden increase of speed or by the sudden stopping and recommencing of the flow. Hence the trouble is often noticed in bathrooms where the water is not turned on very frequently, and consequently water has opportunity to form a deposit in the pipes feeding the bath. At the waterworks a tap affixed to a pipe which had not been used for four months was opened for my edification. The water that came out first looked a dark brown colour. In an ordinary hand-basin it left a heavy deposit of dark hard particles and a considerable quantity of sand. This I was able to scoop up with my fingers after the water had stood only a few minutes. The water had also an unpleasant odour. But after the tap had been left running for five minutes or so the water seemed quite clear and free from odour.

The general belief now prevalent is that a vegetable growth called the *crenothrix*, the existence of which in the water is favoured by the presence of manganese and iron, causes the greater part of the mischief. These growths help to block up the pipes and add to the quantity of organic matter in the water. In these circumstances the official analysis of the water as found at the wells is no longer sufficient. What is wanted is analysis of the water after it has travelled a long distance and remained for some time in the distributing pipes. These pipes, which are far from perfect in construction, add to the difficulty. In the absence of sewers, also, there is a quantity of "dead ends" or *oul de sacs* where the water stagnates in the pipes. In regard to this vegetable growth M. Villiers and M. Colin in their work on the "Altérations et Falsifications des Substances Alimentaires" (Paris, 1900) when dealing with water-supply speak of the *crenothrix kühniana* in the following terms: "This white water weed, which may be found in ordinary water, is very common in water that contains organic matter in decomposition or in chalybeate waters. It has a strong affinity for iron salts, especially the oxide, and fixes this oxide in its filaments. Thus it forms felt-like masses, brown in colour, and large enough to obstruct water pipes completely. This has been noticed at Lille by M. Girard and at Bordeaux by M. Tieman and M. Gartner. In decomposing these brown masses impart to the water a russet tint and a disagreeable taste and odour. The water is then unfit for drinking purposes."

This description coincides with what is now occurring at Cairo when water is drawn from a pipe in which it has been allowed to stagnate for some time. Then the manganese and deposits in the boiler pipes spoil the boilers. To remedy these evils, at a cost of about £900, four big filters have been constructed. The idea is to pass the water through small pieces of the ore of peroxide of manganese on which the manganese is precipitated. Then the ore can be re-oxidised by exposure to the action of the sun. But to clean these filters it is only necessary to increase the pressure of the water which will wash the dark-coloured precipitate off the filtering media. Thus the filters would themselves create the nuisance which they are intended to prevent if, in consequence of a fire or from some other cause, the water were drawn from them more rapidly than usual. Then, the four big filters now under trial cannot filter more than 400 cubic metres per day, and therefore it would require an enormous plant and a very large outlay to apply this doubtful process.

A more serious consideration, perhaps, than the defective quality of the water is the fact that the supply may also fail in quantity. We have seen that the first well yielded 5000 cubic metres per day and that when several wells were dug it was necessary to reduce the estimate to only 4000 cubic metres per well. In the course of time it became evident that the wells were not even yielding the lower estimate of 4000 cubic metres. At last this falling off was so marked that in January, 1908, an experiment was made to discover the actual quantity obtained. To the surprise of all concerned it was found to have fallen from 4000 cubic metres per well to 3200 cubic metres. Worse than all, the

decrease seemed to continue. In January, 1909, another experiment was made and the yield then amounted to only 2700 cubic metres per well. There had been a decrease of 500 cubic metres in the course of one single year.

I may refer here to the alarming experience of the town of Breslau where in very similar circumstances the water-supply suddenly collapsed. The capital of Silesia has 422,000 inhabitants, and in 1872 waterworks were installed to filter the waters of the river Oder. The results seemed excellent, and in the last ten years during which this water was drunk there were but six to 11 deaths from typhoid fever per annum per 100,000 inhabitants. But in 1892 the fear of cholera suggested that the filtered water should be replaced by underground water—in other words, natural instead of artificial filtration was demanded. Accordingly, 315 wells were dug at a distance of only 21 metres from each other. The pipes used were but six inches in diameter. By the commencement of the year 1905 the works were so advanced that nine-tenths of the supply would, it was thought, be available. But it was soon discovered that the amount of water pumped out of the wells decreased. Instead of 60,000 cubic metres they only obtained 40,000. Further, it became apparent that the water had changed in character and now contained an altogether unexpected quantity of iron. By the end of March, 1906, there was so much iron in the water that linen could not be washed. All sorts of excuses were forthcoming. Air was said to have penetrated into the water-pipes though they were ultimately proved to be perfectly watertight. Fortunately, the filters that had been used for the waters of the river Oder had not been destroyed and the town was in this emergency able to return to the old system of water-supply.

This is exactly what is wished for here in Cairo, only with better methods of filtration than those employed in the past. Except officials, whose tongues are tied and who dare not express an opinion, everybody I have encountered condemns the present water supply, and desires to return to the Nile—the Nile properly filtered be it understood, for in the absence of storage filtration would be the only safeguard. The ladies especially are very emphatic as to the existing troubles. The expenditure of soap is ruinous, and in spite of this the linen is yellow and sometimes absolutely stained. Vegetables cannot be properly cooked in this water, and so convinced are some people that the water causes the hair to become brittle and to break that they go to the trouble and expense of sending for a bucket of water from the Nile with which to wash their heads. As for the natives, they continue drinking the Nile water although it is now unfiltered. The Nile water is still distributed, but only for watering the gardens or the streets. So we have arrived at the unfortunate position that formerly the filtered Nile water was considered dangerous and the result of digging the wells to remedy matters has been that a large number of people now drink unfiltered Nile water. The intended reform has, in fact, entirely missed its mark. The danger from the Nile has been increased instead of decreased. Indeed, the death-rate of Cairo does not testify to any improvement. Among the foreigners especially, who are more likely to drink the well water than the natives, the death-rate seems to have increased rather than to have decreased since the wells came into general use in 1905. For instance, the death-rate per annum per 1000 among foreigners was 21·8 in 1901, 25·5 in 1902, 21·1 in 1903, and 25·6 in 1904. Now, in 1905, when the well water was first extensively distributed, the death-rate among foreigners was 26·1 per 1000, in 1906 it was 25·9, and in 1907 it was 27·4. Nor can I find any indication of improvement in the specific statistics relating to typhoid, typhus, and relapsing fever which are here grouped together. It would be difficult to prove that the supply of water from the Rod-el-Farag wells has caused an amelioration in the public health, whereas the entire population is clamouring against the inconveniences it occasions. If there is danger that the Nile may bring cholera to Cairo, then that danger exists to-day and in an aggravated form, because the Nile water is still drunk extensively and it is no longer filtered. Those people who drink the Nile water are sufficiently numerous to infect the whole town if they should contract cholera from the Nile.

Under all these considerations it seems to me that the continued reliance on the Rod-el-Farag well water is dangerous, and that the supply may suddenly prove insufficient. It also appears that a return to the Nile water would be expedient, if for no better reason than that it would give immense satisfaction to 99 if not to 100 per cent. of the population. Considering that the position of the British advisers to the Egyptian Government is fraught with many difficulties, and that occasions of acquiring popularity do not occur every day, it would be a pity to miss the present excellent opportunity of supporting a measure that would be so widely applauded. It is said that the Nile water is satisfactorily filtered at Alexandria. We drink in London with extraordinary impunity water that receives the drainage from an area inhabited by one and a quarter millions of people. Why should not the Nile water be filtered at Cairo? It may cost money, but so does the waste of soaps, the spoilt linen, and the injured boilers, while the "mental and moral damages" caused by the irritation and resentment of a large section of the population are worth considering.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Treatment of Pulmonary Tuberculosis in Manchester.

THERE are three institutions, or rather three branches of one institution, for the treatment more especially of cases of consumption from Manchester and the district around. First of all there is a commodious and well devised out-patients' department of the Manchester Hospital for Consumption and Diseases of the Throat and Chest in Hardman-street, Manchester; next comes the hospital at Bowdon for in-patients; and thirdly, the Crossley Sanatorium at Delamere. At the thirty-fourth annual meeting of the supporters of the Manchester Hospital for Consumption and Diseases of the Throat and Chest held on March 22nd in the Lord Mayor's parlour some interesting particulars were given. Mr. W. J. Crossley, M.P., who presided, said that the hospitals were always full and if they had not adopted the plan of receiving private patients he did not known how the committee could have met the expenses. From this class of patients they received last year £3905. The idea, he said, came from Germany. The hospital stands high, the winter has been hard, and those patients "who were badly hit with disease had a bad time in some respects, but those who were not badly hit seemed all the better for the hard weather." The report showed that the 90 beds were occupied all the year and the results are said to be satisfactory, the system adopted being the "open-air" treatment with a very liberal diet. The average stay of a patient is three months. The pity is that it cannot be longer, but owing to the demands for accommodation and the numbers waiting for admission the Board has been compelled to fix a limit of three months. The patients are out of doors all day, except at meal times, and usually sleep with the bedroom windows wide open. At Bowdon the 50 beds have been fully occupied during the year, but it is sad to know that a large number of applicants are always waiting for admission. All these patients belong to the working classes, and it is usually the wage-earner who is struck down, so that they are often short of the warm clothing so much needed. In the out-patients' department 11,443 were under treatment during the year, against 11,163 the previous year. The medical board call attention to the fact that so many patients apply too late for successful treatment, and say that it is better to send doubtful cases for consultation, and even to admit to the sanatorium when tuberculosis is only strongly suspected, rather than to wait, as is so often done, till the disease is too extensive to allow of recovery. At Hardman-street the want of in-patient accommodation for urgent throat cases and for acute chest diseases has been seriously felt, but the times are not at present favourable to any further extension. Altogether this institution tries to cope with a widespread and terrible scourge so far as its resources permit and is as free from what is well known as hospital abuse as it well can be.

March 28th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Annual Meetings of Liverpool Charities.

AT the forty-fifth annual meeting of the Liverpool Hospital for Consumption and Diseases of the Chest, held on March 18th at the Town-hall, the Lord Mayor, who presided, warmly commended the excellent work which was being accomplished through the medium of the hospital and its laboratory in Mount Pleasant and the sanatorium at Delamere Forest. Special emphasis was laid upon the educational value of the work in the direction of teaching tuberculous patients the best method of improving their standard of health and the means to be adopted for preventing the spread of the disease. At the annual meeting of the Liverpool Queen Victoria District Nursing Association, also held in the Town-hall, Mr. Archibald Williamson, M.P., announced that Her Royal Highness Princess Louise had consented to attend the district nursing congress to be held in Liverpool from May 12th to 14th next. At the annual meeting of the Liverpool Country Hospital for Children it was announced that an offer had been received of £4000 towards the erection of a new open-air ward, provided that a similar sum was raised by the end of June. Towards this amount £400 were promised at the meeting, which paid a tribute to the great part which the late Mr. Holbrook Gaskell had taken in the initiation of the hospital.

Death from Anthrax.

A death from anthrax in a labourer employed by a Liverpool firm occurred early in March. On returning from work on Feb. 24th he drew his wife's attention to what appeared to be a boil on the left side of the neck which was painful. By the following morning the swelling had developed and, rapidly becoming worse, he was removed to hospital where he died on the day following admission. At the inquest which was held on March 3rd the medical evidence was to the effect that death was due to anthrax. A representative of the firm in which the deceased was employed stated that at the works a quantity of greasy bones were regularly crushed up for the purpose of making artificial manure and fertilisers. They also used "shoddy," the refuse from old clothes. There was, however, no warrant for the suggestion that any of the goods had been contaminated with anthrax. The deceased's duties would bring him into contact both with the bones and the shoddy. The witness never thought it necessary to take precautions to cope with a possible outbreak of anthrax. Disinfectants were, however, kept on the premises to provide against cases of blood poisoning which occasionally occurred. Mr. Beard (assistant factory inspector), who watched the proceedings on behalf of the Home Office, said he did not think that anybody realised the danger of anthrax in works of this kind. The coroner thereupon remarked that it was time that precautions were taken. The managing director of the firm stated that the stuff which came from India was bone-meal which arrived already bagged and received but little handling in this country. The firm did not use much of it; they mostly used greasy bones, the greater quantity of which came from Lancashire. He handled the stuff himself daily. A verdict of death from anthrax was recorded by the jury.

Presentation to Dr. Thomas Bushby.

Dr. T. Bushby, who recently retired from the post of medical officer to the B division of police after 12 years' service, was the recipient of a pleasing souvenir of the great esteem in which he was held by the men of that division, to whom his resignation has been a matter of much regret. The presentation took the form of an antique Dutch writing bureau suitably inscribed. Superintendent Phillips spoke of the great care and courtesy Dr. Bushby had always exercised in dealing with the men. The presentation was made by the head constable who spoke in flattering terms of Dr. Bushby's high medical qualities. Dr. Bushby, in acknowledging the presentation, paid a very high compliment to the *personnel* of the men and testified to the pleasing relationship which had always existed between them.

Medical Inspection of School Children at Birkenhead.

A very encouraging first report has been issued by Dr. R. S. Marsden, supervising schools medical officer of Birkenhead, and Dr. R. O. Morris, medical officer to the educational authority of Birkenhead. The chief defects in the children inspected were: obstructed breathing, 15 per cent.; strabismus, nearly 4 per cent.; and dirty condition, 3 per cent. There had been no objection to the inspection on the part of parents, 82 per cent. of whom took a great interest in the proceedings.

March 29th.

LEEDS.

(FROM OUR OWN CORRESPONDENT.)

The General Infirmary.

THE annual meeting of the subscribers and friends of the General Infirmary at Leeds was held on March 18th under the chairmanship of Mr. Charles Lupton, the treasurer and chairman of the weekly board of management. Dealing with the work done during 1908 it was pointed out that the number of in-patients treated was 51 in excess of that for 1907. This number was 7137, and included 335 who were in the beds of the institution on Dec. 31st, 1907. The average number of in-patients was 365, a figure which, being within three of the figure for the preceding year, points to the fact that the institution is working at high pressure. The average number of days spent by each patient in the infirmary was 18·7. The number of deaths was 531, which gives a percentage of 7·4, or, deducting the number of cases which proved fatal within 48 hours of admission—namely, 163—a percentage mortality of 5·2. The new out-patients numbered 42,371, exclusive of 501 patients in the maternity department. The two semi-convalescent hospitals in connexion with the infirmary have been very fully utilised. Patients who required more attention than they could obtain at convalescent hospitals of the ordinary type have been sent to the number of 1154 to these two institutions, which form virtually an extension of the infirmary, where the nursing is of the same standard as at the main institution. A resident medical officer is in charge of these homes under the direction of a member of the honorary staff. Those who are interested in the question of the use of stimulants at the larger infirmaries and hospitals of the kingdom will find in the statistics of the infirmary during the last quarter of a century a very striking illustration of that steady diminution in the use of alcohol which has been frequently referred to. During the year 1908 the total amount of stimulants used in the wards and in the theatres and casualty departments was 2021 ounces of wine and 4405 ounces of brandy, a total of 6426 ounces—that is to say, about 18 ounces among 365 patients per day. Among some of the facts mentioned by the chairman was the gratifying one that since the commencement of the out-patient maternity department in 1885 no less than 13,342 confinements had been conducted with an aggregate mortality of 34. In the out-patient room, where, as already said, over forty thousand patients presented themselves, the inquiry officer had investigated the circumstances of 13,640 applicants. Of these, 115 at once admitted their ability to pay and were not attended to; 982 cases were further inquired into and 8 per cent. of these were found unsuitable on financial grounds for treatment. Mr. Lupton made some interesting remarks on the question of pensions for nurses and servants. He reminded the meeting that as a result of the memorial to the former treasurer, Mr. R. Benson Jowitt, a sum of £2240 was set aside at the suggestion of Mr. Jowitt himself for the purpose of establishing a pension fund for nurses and old servants of the institution. Unfortunately there had been no addition to that fund; probably, owing to the fact that it was labelled "The Jowitt Pension Fund," and many people might think the fund was closed. On the suggestion of Mr. Jowitt, therefore, it had been decided to strike his name out of the title of the fund which is to be called the "Pension Fund." For many years, but especially during the last few years, the work of the electric department, including in this the use of the x rays and Finsen lamp, has been increasing. The matter has been fully gone into by the weekly board and the faculty, and at the annual meeting it was resolved, on the recommendation of the weekly board, that an electro-therapeutic department be established under the charge of an honorary officer who shall be styled the director of the electro-therapeutic department. The rules for the department, especially in so far as they deal with the position

of the honorary officer, are so important that they are appended and run as follows:—

The director of the electro-therapeutic department shall have charge of the electro-therapeutic department, which shall include: (*a*) The use of x rays, radium, Finsen light and high-frequency currents, for purposes of diagnosis and treatment; (*b*) the supervision of the photographic department; and (*c*) the supervision of all electrical apparatus used in the diagnosis and treatment of disease.

No patient shall be treated in the department who has not been referred to it by a member of the honorary staff other than the director, but the electro-therapeutic treatment of all patients so referred shall be carried out by the director.

March 30th.

NEWCASTLE-UPON-TYNE.

(FROM OUR OWN CORRESPONDENT.)

Penalty for Selling Tuberculous Milk in Sunderland.

A DAIRYMAN was recently summoned by the Sunderland corporation for having sold milk from tuberculous cows within the borough contrary to an order made by the corporation. The magistrates held that the case was fully proved, but as the defendant appeared to be under a misapprehension and as this was the first case under the Act a fine of 20*s.* only was imposed. It was pointed out by the bench that subsequent cases might not be dealt with so leniently. The Act under which the above order was made is the Sunderland Corporation Act, 1907, Part VI. of which deals with the supply of tuberculous milk. The Act imposes penalties upon dairymen for selling milk from cows affected with tuberculous disease of the udder and requires that cows so affected shall be isolated and that all cases of tuberculous disease of the udder shall be notified. The medical officer of health is empowered to take samples of milk and to inspect cows the milk of which is to be sold in the borough, and if he has reason to suspect any cow to be suffering from tuberculosis of the udder he is authorised to take samples for examination. And further, if he is of opinion that the consumption of any milk sold in the borough is likely to cause human tuberculosis he is to make a report to the corporation, which can then serve notice on the dairyman calling upon him to show cause why an order should not be made prohibiting him from selling milk in the borough until such time as the medical officer of health is satisfied that the milk-supply is no longer likely to cause tuberculosis to persons residing in the borough. These provisions are applicable to all dairymen who sell milk in the borough, whether they reside within or beyond the borough boundaries. It is also to be noticed that the Act provides no compensation in cases where a farmer has to get rid of cows which are tuberculous and against whom an order has been made.

The Barrasford Sanatorium.

The annual meeting of the supporters of the Newcastle and Northumberland Sanatorium, Barrasford, was held recently in the library of the Royal Victoria Infirmary, Lord Armstrong, the president of the institution, being in the chair. The annual report was read by the secretary, Dr. O. W. Ogden. With regard to finances, the position at the end of 1908 was much better than at the end of 1907. The sanatorium was opened in May, 1907, and the deficit at the end of December was £2154. During 1908 this amount was reduced by £1298 to £856 as the result of an effort to raise £2000. In response to the appeal nearly £1000 were collected and Mr. J. H. Burn, who had already contributed largely to the expenses, gave an additional £500. Against this there was a further capital expenditure of £300 to complete the furnishing of the institution. An effort is to be made to pay off the deficit of £856 during the current year. The annual subscriptions had increased from £217 to £281. The institution accommodates 50 patients, and of these the Newcastle corporation has secured the use of 20 beds for one year at a cost of £100 per bed. Messrs. Armstrong, Whitworth, and Co. had supported the institution by maintaining five beds. The charge to other patients is £2 2*s.* per week. The honorary visiting physicians in their report stated that since the opening of the sanatorium in May, 1907, until Dec. 31st, 1908—a period of 20 months—90 patients had been discharged and every effort had been made to keep in touch with these persons after they left the sanatorium. They were in a position to say that of 52 male cases 22 are at work, two are ready to start work, six are *in statu quo*, six are not doing well, eight have not been heard from, and eight have died. Of 38 female cases 12 continued to improve, 13 are *in statu quo*, five are not doing well, five have not been heard from, and three have died. This is hardly an encouraging report, especially as it is a record of only 20 months' work. The test of the good which is done is the condition of the patient four years after he has left the sanatorium. Judging by the number "not doing well" and the number dead, it would seem as though admissions are not strictly limited to early cases of tuberculosis which present a reasonable chance of material benefit by a sojourn at Barrasford. If the object of the sanatorium were to be stated to be educational and to be a temporary health resort for those who are unfortunately afflicted with this distressing disease rather than the cure of the disease, it is more likely that the object would be achieved. A sanatorium for tuberculosis is in every way good, provided that its limitations be recognised. But if the charitable public be led to suppose that the persons sent to Barrasford are to be cured, and they read a report such as the above, they are very likely to think that the object for which their money was given is not being attained, with the result that their contributions will not be so readily forthcoming.

The Visit of Sir T. Lauder Brunton.

On March 18th Sir Lauder Brunton delivered an address on the Treatment of Heart Disease to the members of the Northumberland and Durham Medical Society. The library of the infirmary was well filled with medical men from the city and the neighbourhood. The address, which was very clear and most interesting, was devoted to the consideration of the treatment of those forms of heart disease which are not specially dealt with in the text-books but which are so common in practice and often so difficult to treat with success. Sir Lauder Brunton, as always, was most suggestive, and his address was full of advice and information which cannot fail to be both stimulating and helpful in the every-day practice of medicine. It is difficult, if not impossible, to summarise Sir Lauder Brunton's remarks, but if one were to state in one word the lesson of the address it would be—attention to detail, and this attention to detail in Sir Lauder Brunton's own work was well illustrated by the technique which he described when he has to take the blood pressure of a nervous patient. In the evening the members of the society entertained Sir Lauder Brunton to dinner. Over 100 members and their guests attended the dinner. In reply to the toast of his health, Sir Lauder Brunton referred to the establishment of the Research Defence Society, the objects of which are "to make known the facts as to the experiments on animals in this country, the immense importance to the welfare of mankind of such experiments, and the great saving of human life and health directly attributable to them." Sir Lauder Brunton pointed out the need of such a society to meet the unreasoned and unreasonable statements of good, nervous, and selfish people who sought to hinder the advance of medical science in this country. If experiments upon animals were disallowed by law all research in medicine would become impossible.

March 30th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Black-listed Patients.

A COMPLAINT of an unusual character was made at the last meeting of the Cardiff board of guardians by one of the district Poor-law medical officers. He stated that recently he had had an abnormal number of parish patients on his list owing to the refusal of some of the medical practitioners of the district to attend persons who made a practice of running up a bill for medical attendance with several medical men in succession and not paying any one of them. This class of person is unfortunately not confined to the Cardiff union, but it is not often that their sharp practice is met in such a determined manner as in Cardiff. Many of the persons concerned are said to be in fairly good circumstances, so that the proper steps for the guardians to take would appear to be to recover the cost of any medical attendance they may have received in consequence of having obtained an order from the relieving officer

The Winsley Sanatorium.

The sanatorium which was established four years ago at Winsley near Bath for the treatment of consumptive patients coming from the counties of Somerset, Wilts, and Gloucester, and the city of Bristol is continuing to do excellent work. Altogether 795 patients have been treated in the institution, and last year 215 were discharged, of which number 41 per cent. were considered fit to return to work, 38 per cent. were improved and many of these returned to their work, while 18 per cent. made no marked improvement. Six patients died in the sanatorium. It is satisfactory to find that there are now fewer applications than formerly for the admission of advanced and therefore unsuitable cases. It appears to be more generally recognised that the sanatorium is really only intended for those persons who have a reasonable prospect of recovery. In the recently issued report of the medical board the hope is expressed that each succeeding year will show an increasing proportion of early cases as it becomes more widely realised that consumptives, if sent to a sanatorium sufficiently early, can make complete recovery and be restored to full working capacity. Those patients who are discharged are encouraged to impress upon their friends and relatives the importance of early treatment and the danger of neglecting early symptoms of the disease. The medical board has very wisely made the rule with respect to the length of stay of patients more elastic than formerly. It originally provided for a residence of four months, but it has now been decided that at the end of two months the condition of a patient shall be considered and if he is not making satisfactory progress he is to be discharged. Although most of the beds are allocated to the districts named above there are a few available for patients from elsewhere, and quite recently arrangements have been made with the corporation of Coventry for the accommodation of six patients from that town.

Damages against an Unqualified Dentist.

At the Bridgend county court on March 11th Judge Bryn Roberts and a jury awarded the wife of a collier damages to the amount of £40 against an unqualified dentist at Cardiff. According to the evidence which was placed before the jury the assistant of the dentist, who was also unqualified, after injecting a solution of cocaine extracted from the woman six teeth. After the operation she fainted and a medical practitioner who subsequently attended her stated that for some days she was suffering from shock as the result of the injection of an unusual amount of cocaine. In giving judgment for the amount named Judge Roberts pointed out that he was not concerned with the fact that the dentist was not qualified, but it was reasonable to assume that the same care and skill would not be brought to bear by unqualified persons as by those who were qualified.

Cardiff Model Lodging-house.

There are in the borough of Cardiff many excellent municipal institutions, including isolation hospitals, public markets, and public slaughter-houses, but any proposals to establish a municipal lodging-house have met with no support. In a town of the character of Cardiff, with a large shifting population, connected on the one hand with the shipping and on the other with the colliery industries in the Merthyr and Rhondda coalfields, accommodation suitable for wayfarers is very necessary. The need is fairly well met, but as all the existing lodging-houses are in the hands of private individuals constant and vigilant inspection is necessary. There has recently been opened a lodging-house with accommodation for 287 men. The design of the building and the mode of carrying it on are very much on the lines of the houses which were first erected by Lord Rowton and later by the London County Council and municipalities elsewhere. Each lodger has a cubicle to himself and he has the use of the kitchens with cooking utensils and of the bathing and washing rooms. Food can be bought on the premises, but alcoholic drinks are prohibited. The charge per night varies from 6*d.* to 8*d.* The undertaking has been carried out by a limited liability company, the shareholders of which are all connected with Cardiff. One indirect effect of the establishing of this house will no doubt be the endeavour to bring up to its level of comfort other common lodging-houses in the town.

Cardiff Public Health Expenditure.

As the estimated expenditure during the next financial year necessitated an increased rate of 6*d.* in the £, it was only to be expected that the members of the city council should endeavour to cut down certain departmental estimates. An attempt, fortunately unsuccessful, was made to reduce the estimate of the health committee, which includes the charges for scavenging. One suggested reduction was particularly inopportune—namely, that of £200 for spraying the streets with tar. At a meeting of the public works committee held a few weeks ago the city engineer reported most favourably upon this method of keeping down dust both on account of its effectiveness and from the point of view of reducing the cost of maintenance. The estimated cost of the city asylum is £6000, a very considerable reduction upon the amount actually spent (£14,000) two years ago when the Cardiff lunatics were boarded out in various institutions all over the country.

March 30th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Notification of Phthisis.

THE following is a list of local authorities that have extended the Infectious Diseases (Notification) Act, 1889, to pulmonary phthisis with the approval of the Local Government Board up to March 1st, 1909: Clackmannan county, Kirkcaldy, Cupar, St. Andrews, Kinross county, Lower, Middle and Upper Wards of Lanarkshire, Bathgate, Linlithgow, Alloa, Alva, Anstruther, Auchtermuchty, Brechin, Crail, Dollar, Edinburgh, Kilrenny, Kingussie, Leith, North Berwick, Paisley, Penicuick, Rutherglen, and Tillicoultry.

Marine Biological Association of the West of Scotland.

The annual report of this association for the year 1908 has just been issued and from its perusal it is evident that the facilities for study and research have been maintained in excellent order. During the year the tables in the research laboratory at Millport were used by 20 workers. The committee has recently issued an invitation to universities and scientific societies to send workers to Millport. The opportunity afforded to universities and scientific institutions to purchase specimens and material is being more fully taken advantage of, and the educational and scientific value of this department of the work of the association is acknowledged by all. The financial position is not quite so satisfactory. The endowment fund remains at the same figure as at the end of the previous year, but the income for the year was not nearly sufficient to meet the expenditure. Not only was the whole income spent but a balance of cash in hand at the close of the year 1907 amounting to £188 was exhausted. To secure the continued prosperity of an association requiring to keep up such a large establishment as the station at Millport it is practically a necessity that a substantial endowment fund should be formed.

The Incorporated Glasgow Dental Hospital.

At the close of the session of the Incorporated Glasgow Dental Hospital Sir James Fleming, chairman of the board of governors, presided at the distribution of prizes and certificates on March 16th. In his opening remarks he said that the Glasgow Dental Hospital had been in existence for a considerable time and it had accomplished a great deal of very good work. Last year there had been over 13,000 patients treated, 80 per cent. of whom had had conservative operations, and only 20 per cent. extractions. The one thing which concerned the directors was the want of money. Their subscriptions had only reached £100, and but for the real work done by gentlemen prominent in the profession they could not have accomplished what they had, and the consequence was that the real work was left to their dental colleagues, who had given time freely both in connexion with the hospital and the school. Their desire was to bring up the dental profession to the standard of being regarded as a branch of the medical profession. Sir James Fleming paid a special tribute to the work of the dean, Mr. J. F. Macmillan. He then made an eloquent appeal for funds for the hospital, and saying, in conclusion, that the honour of the dental profession of the future lay in the hands of the present-day students he urged them to maintain its high traditions and reputation. Sir Hector Cameron then spoke. He traced the influence of the Dental Act of 1878 in establishing and purifying the dental profession. He held that there was in the Act abundant means for maintaining the honour and high

traditions now entertained by all dentists. That Act had also had a very great effect upon the character of dentistry as a profession. It had produced a very great change in public opinion and in the opinion of leading and important bodies. Sir Hector Cameron then spoke of the evils arising from neglect of the teeth, adding that the workers in the Dental Hospital had realised that their work was added to by the increasing care of the War Office. No recruit would be admitted to the army if he were crippled in respect to his teeth. Soldiers in Glasgow were constantly sent to the Dental Hospital and that fact in no little manner had increased the work involved upon the Dental Hospital. Professor W. Glaister also spoke, after which the chairman called upon Mrs. McInnes Shaw to present the prizes and certificates.

University of St. Andrews: Resignation of Professor Purdie.

A meeting of the St. Andrews University Court was held at St. Andrews on March 19th, when a petition was submitted from Professor Thomas Purdie, LL.D., asking leave to retire at the end of the summer session from the chair of chemistry in the United College, owing to ill-health. The court unanimously agreed to record in the minutes the sense of the loss which the University will suffer by the withdrawal of Professor Purdie from active teaching in the chemistry department of St. Andrews. It was also agreed that steps should be taken to arrange for the election of a successor to Professor Purdie.

Montrose Asylum Charter.

At the instigation of the Secretary for Scotland, and following upon the recent agitation, the General Board of Lunacy has written to the Montrose Asylum and Infirmary Board suggesting to it that it should consider the advisability of applying for a new charter and asking for the views of the board either at a conference or in writing.

University of Aberdeen: The Chair of Surgery.

The winter session at the University of Aberdeen closed on March 24th. The graduation ceremony will take place on April 6th. The preliminary examination commenced on March 26th, 40 candidates presenting themselves in medicine. For the professorship in surgery, which will become vacant by the resignation of Professor Alexander Ogston, the following gentlemen, it is understood, are candidates: Mr. J. Scott Riddell, M.V.O., M.A., M.B. Aberd., senior surgeon to the Aberdeen Royal Infirmary; Mr. J. Marnoch, M.A., M.B. Aberd., surgeon to the Aberdeen Royal Infirmary; Mr. H. M. W. Gray, M.B. Aberd., F.R.C.S. Edin., surgeon to the Aberdeen Royal Infirmary; and Mr. Alexandar Don, M.A., M.B. Aberd., F.R.C.S. Edin., surgeon to the Dundee Royal Infirmary.

Aberdeen Trades Council and the Infirmary Contracts.

At a meeting of the Aberdeen Trades Council held on March 24th a letter was read from the clerk of the infirmary board in reply to the council's request that all infirmary contracts should be given to firms conforming to trades union conditions. The letter stated that as the infirmary was a philanthropic institution, supported by all classes of the community and utilised by the sick poor without any distinction, the directors could not see their way to grant the request. The following motion was then, on the proposition of the chairman, submitted to the meeting and after discussion carried by a majority:—

> That the Trades Council, representing the organised workers of Aberdeen, records its emphatic protest against the attitude adopted by the directors of the Aberdeen Royal Infirmary in refusing to stipulate that successful contractors must pay the trade union rate of wages and conform to all other conditions agreed upon by employers' and workmen's associations, thus admitting the possibility of firms executing work for the institution under conditions which can only tend to render these workers liable to the disease which the infirmary's primary object should be to combat, besides being a breach of a principle which has been accepted with advantage by most public and semi-public bodies in the country.

Death of Dr. Patrick Blaikie Smith.

Dr. Patrick Blaikie Smith died at San Remo on March 24th. He was born in Aberdeen in 1849 and graduated with highest honours at the University of Aberdeen in 1870. After graduation he was appointed assistant resident physician to the Middlesex Hospital, London. In 1872 he began private practice in Aberdeen and was appointed assistant to the late Professor Brazier, teacher of chemistry at the University in 1873. He was appointed physician to the dispensary, and from 1875 to 1886 was anæsthetist at the Royal Infirmary, when he became an assistant physician in that institution. In the following year he was appointed one of the physicians and lecturers on clinical medicine. From 1889 to 1892 Dr. Blaikie Smith was examiner in pathology at the University of Aberdeen, and from time to time physician to various institutions in the city, and found time to contribute many valuable papers to the medical journals. In 1884 he brought out his ether inhaler which obviated many of the difficulties of administering ether. He had a very large private practice. He was also an enthusiastic Volunteer, eventually holding the commission of Surgeon-Lieutenant-Colonel in the 1st V.B. Gordon Highlanders. In 1895 Dr. Blaikie Smith's health was so bad that he gave up practice in Aberdeen and thereafter spent the winters in San Remo, where he built up an extensive practice. The summers he spent at Nairn, visiting Aberdeen frequently. He is survived by Mrs. Blaikie Smith and two daughters, his only son having died at San Remo last year.

March 30th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Drinking in Ireland.

THE Chief Secretary's Office for Ireland has just prepared an important report giving information as to the frequenting of public-houses by women and children in the six county boroughs of Ireland—Dublin, Belfast, Cork, Limerick, Londonderry, and Waterford. The observations made by the police were taken from 10 A.M. to 11 P.M., except on Saturdays and Sundays, when different hours of closing obtain, and on these days observation was kept up while the houses remained open. The results of what the police saw in the way of women and children frequenting public-houses are shown in the subjoined table:—

Name of city.	No. of houses observed.	No. of women and children entering.	
		Women.	Children.
Dublin	22	46,574	27,999
Belfast	22	5,963	6,449
Cork	10	1,995	2,233
Limerick	6	6,493	4,583
Londonderry ...	8	856	975
Waterford ...	6	5,441	2,705

In Belfast the greatest number of cases occurred in the lowest-class districts. It would appear to be a fairly common practice for children between seven and 14 years to enter public-houses alone for intoxicating liquor and carry it home to their parents. The city, the report says, abounds with spirit groceries, which form a training ground for the formation of habits which lead to misery and poverty. One of the principal causes of the difference between the Belfast and Dublin figures is, according to the Dublin report, that in the latter city only one house of the number observed is returned as doing grocery business, while in Belfast of the 22 houses observed 17 do grocery business combined with drink and are consequently more frequented by women. In Belfast, according to the Belfast report, there are practically no public-houses where groceries are sold. The houses are purely for the sale of drink. There is not so much porter drinking amongst women in Belfast as in Dublin. There are about 500 "spirit grocers" and beer retailers in Belfast, and women order drink in the "spirit groceries," paying for it as groceries, and in this way most of the drink taken by women is obtained.

Bacon Curing.

The peculiarly intimate association of pigs, potatoes, poverty, and peasantry of Ireland goes to make the industry of "bacon curing" an appealing one on this side of the Irish Sea. The bulk of the bacon curing is carried on in the province of Munster, where some nine large "factories with a capacity for handling about 12,000 to 15,000 pigs amongst them every week" have firmly established themselves. In such circumstances a specially attentive hearing was secured for a lecture delivered on March 22nd at Enniscorthy to the North Wexford Farmers' Society on Bacon Curing and the Dead Meat Trade, by Mr. Loudon M. Douglas, of the College of Agriculture, Edinburgh. The lecturer said that while Denmark is not

twice the size of the province of Munster it has 54 bacon factories which handle as many as 40,000 pigs every week, the whole of the bacon of which was being continuously shipped to the United Kingdom. Much money which is now spent in railway freight and allied expenses would be saved if bacon factories were more numerous in Ireland. The pigs which are produced and grown in so large numbers in County Wexford are, for the most part, sent to Waterford or Limerick, which means that what would be a considerable profit is lost in the process of transfer. The older factories, too, are much more expensive to work than the modern ones, while wanting in the scientific design and construction of the latter. One of the most recently constructed has been aptly described as the "first farmers' bacon factory" in the United Kingdom; it is situated at Roscrea, County Tipperary. The lecturer dwelt on the necessity for a manager of a bacon factory to be conversant not only with the general practice of bacon curing but with its theoretical principles—with the bacteriology of meat, the chemistry of food and of antiseptics and of curing agents, the detection of disease, and many other branches of his important subject—and pointed out that: "It is a curious thing that although the industry represents such a vast amount of money to the country there are no facilities offered either at the agricultural colleges or universities for obtaining technical instruction in these matters. The proper utilisation of the by-products alone might mean increasing the wealth of the country by millions, but there are no facilities offered in Ireland for obtaining the knowledge that would enable any bacon factory managers to carry out the special processes which are so successful in connexion with this business in America and in other countries."

Tuberculosis Exhibition at Bray.

One of the most completely successful of the tuberculosis exhibitions hitherto held in Ireland was that of Tuesday, Wednesday, and Thursday of last week (March 23rd–25th), which was arranged in the Assembly Rooms, Bray, County Wicklow. The work of planning and arranging the hall had been intrusted to the charge of Mrs. Daniel Byrne and the ladies of the Bray Women's National Health Association, and it was admitted by all visitors that the duty had been carried out in the very best way, showing the most careful and effective attention to the requisite classification and order. Lady Aberdeen (accompanied by Lord and Lady Haddo and Mrs. Victor Marshall) motored down from Dublin and arrived at 12.30 o'clock. A magnificent bouquet was presented to Her Excellency and an address was read from the local tuberculosis committee. The latter was acknowledged in a graceful speech, and in another short address Lady Aberdeen declared the exhibition open. Large numbers of visitors attended and examined with attention the models of labourers' cottages, pathological specimens, models of bacilli, statistical charts, geographical maps, &c., which had been amply provided and very judiciously arranged.

Belfast Ophthalmic Hospital.

At the annual meeting of the friends of this charity, held on March 29th, it was reported that there were 106 intern cases and 1450 extern eye, and 759 ear, nose, and throat cases, making a total of 2315 patients. Financially there is a balance against the hospital of £177. Owing to the fact that the committee has been receiving trifling sums from some of the patients, the Commissioner of Valuation has seen fit to place the hospital on the rates of the city on the ground that the hospital makes a private profit by so doing and is not exclusively a charity. A demand has been made for £33 5*s.* for city rates and arrears and for £2 15*s.* for poor rate. These charges have been appealed against, so that the matter is still *sub judice*. It is curious that until last year neither rate nor tax was ever demanded, though no change has been made in the management of the hospital.

March 30th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Foreign Bodies in the Bronchi Extracted by Superior Bronchoscopy.

AT a meeting of the Hospitals Medical Society held on March 12th M. Guisez gave an account of three cases of foreign bodies in the bronchi. In one case the foreign body—the metal cover of a pencil—was situated in a lower ramification of the bronchus and was particularly difficult to extract. M. Guisez, basing his opinions upon 16 cases which had been under his care, enlarged upon the advantages which the method of superior bronchoscopy possessed over the inferior method. In fact, the latter should only be looked upon as a *pis aller*. M. Guisez added that the diagnosis in these cases was still extremely difficult despite the perfection to which clinical methods had been brought and the aid given by radioscopy.

The Treatment of Exophthalmic Goitre.

At a recent meeting of the Paris Society of Medicine M. Paule Sainton discussed the various treatments of exophthalmic goitre. Exophthalmic goitre is a collection of symptoms (*syndrome*) which react in a different manner to the same agent. In the case of infectious diseases, for instance, some aggravate and some improve, at least temporarily, the symptoms of the disease. It is the same with certain operations, such, for instance, as ovariotomy. In the presence of this paradoxic reaction of the gland to identical causes it is difficult to lay down absolute rules as to when one or the other method of treatment should be employed. Out of 19 cases treated by antithyroid hæmo- or sero-therapy M. Sainton noted an improvement in 14, a cure in three, and no result in two. In three cases which were apparently due to infection or to rheumatism sodium salicylate cured one and considerably relieved the other two. In his opinion the most useful tonic was the sulphate of quinine. The results of surgical treatment are very variable. He had seen one cure which had lasted for nine years. His own practice was to reserve surgical measures for very acute cases or for those in which profound cachexia was present.

An Operating Theatre Rated as a Provision Shop.

The following story shows a little expected consequence of an Act of Parliament. The Act of June 28th, 1901, which authorised the city of Lyons to levy sundry taxes in order to make up for the loss which it had sustained owing to the *octroi* having been done away with, contained a certain clause No. 14. This clause laid it down that hotels, inns, *maisons de santé*, or other houses should be assessed at the same rate as shops for the sale of food or drink, because of the dining and other rooms which the visitors enjoyed in common. They also paid inhabited house duty on account of the private rooms allotted to the inmates. The new Surgical Institute of Lyons, which only receives patients needing surgical care, has put in the plea that it should not be taxed at the same rate as an ordinary consulting room, and this is a point of great importance, for inns are rated at 6 per cent. and medical men at 12 per cent. The Conseil d'État has accepted this protest, but the operating theatre has been assessed in a very original manner. In so far as it comes under the head of a room used in common it had been assessed at the same rate as a provision shop, although the patients' private rooms and the private rooms of the medical man in charge paid inhabited house duty, the rule being that a room is assessed differently according to the purpose for which it is used. The Surgical Institute argues that the operating theatre should be considered as a private room for every patient who is operated on, and certainly at first sight it would appear to be a legal pleasantry to assess an operating theatre as a provision shop. But according to clause 14 every place (*local*) must be assessed either as a provision shop or as an inhabited house. The operating theatre cannot be an inhabited house because of the ever-changing succession of patients. Therefore it comes under the other heading.

Epidemic Cerebro-spinal Meningitis.

Epidemic cerebro-spinal meningitis was once a rare disease in France, where it was hardly seen except in military centres, especially those in the East. But for the last few years it has been making steady advances, and cases of it now occur from time to time in civil practice and in places wide apart from each other. On March 9th M. Netter read before the Academy of Medicine a note on a small epidemic which broke out in a suburb of Paris. The disease proved very infectious and in many instances it ended fatally. But very fortunately recourse was made to an antimeningococcic serum of remarkable potency which M. Dopter has been preparing in France and which is the same as Wassermann

and Flexner have been making in Germany and the United States respectively. After drawing off some cerebro-spinal fluid by lumbar puncture M. Netter replaces it by doses of 30 cubic centimetres of Dopter's serum and from that time, especially if the treatment has been carried out early, the disease generally stops short and clears up in two or three days without leaving any traces. M. Vaillard, speaking after M. Netter, urged the Academy to take up the study of cerebro-spinal meningitis. He had watched closely the violent epidemic amongst the Evreux garrison and saw the serum give quite marvellous results.

The Number of Students in France.

The Minister of Public Instruction has just published the statistics of the students on the books of the various French Universities on Jan. 15th. The total number is 41,897, of whom 38,288 are males and 3609 females. Of the total number, 7333 male students are studying in the various faculties of medicine and 3384 at the medical schools. Of the female students 689 are studying at the faculties of medicine and 358 at the medical schools. The University of Paris has the largest number of students, namely, two-fifths of the total number in France, and about two-thirds of the total number of female students are studying at the same University.

March 29th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Analgesia by Intravenous Injections.

BEFORE the Berlin Medical Society Professor Bier read a paper on local anæsthesia by the injection of anæsthetics into the veins. He had found by experiment that a pigment injected into a vein became diffused over the whole substance of a limb, and it was present in all the small vessels of the periosteum and marrow. He concluded from this that any substance when injected into a vein would enter into all the tissues, including the nerves, and devised a method of anæsthesia on this principle. Complete anæmia of the limb is essential, and it is produced by means of an Esmarch's tourniquet. Two rubber bandages are then applied to the limb, one on each side of the site of the operation. Without complete anæmia the anæsthetic substance would be liable to enter the general circulation and thus produce poisonous effects. After the application of the rubber bandages a vein between them is opened. In the upper extremity either the cephalic, the basilic, or the median vein may be used; in the lower extremity the internal saphena. The opening of the vein may be performed under local anæsthesia. A specially constructed cannula is then introduced into the vein and a 0·5 per cent. solution of novocaine is injected. The largest dose used was 80 cubic centimetres and no poisoning occurred when the necessary precautions were observed. The compressive bandage must first be loosened slightly, so that only a portion of the anæsthetic may enter the circulation, then it is again tied, and only after some time definitely removed. In this way the absorption of the anæsthetic takes place by degrees. Another method is to leave the cannula in the vein until the operation is finished except for the sutures and the tying of the arteries, and finally to irrigate the vessels through the cannula by saline solution. In this way the anæsthetic is either removed or so much diluted that it becomes innocuous. The direct anæsthesia in the area between the two bandages comes on immediately after the injection, whilst the indirect anæsthesia in the part distal to the lower bandage occurs, as a rule, after six minutes. At the same time, a motor paralysis of the extremity is produced, so that any operation may be performed upon it as in general anæsthesia. The anæsthesia disappears at once when the bandage is removed, but it may be prolonged by adding adrenalin to the novocaine. The effect of adrenalin was, however, rather uncertain, and the same may be said when acoin was used instead. The new method has up to the present been used in 134 cases, and in 115 of these the anæsthetic effect was excellent; in 14 cases the result was satisfactory, though the patients complained of slight pain, nevertheless the operation was performed without difficulty. The operations consisted among others of 10 amputations, 37 resections, four cases of arthrodesis, three arthrotomies, one osteotomy, 12 sutures of bones, eight transplantations of tendons, two other operations on tendons, six cases of cellulitis, seven of varicose veins, and two operations for Dupuytren's contracture. The method is indicated only in cases where local anæsthesia is not sufficient. On the other hand, lumbar anæsthesia needs no longer to be used in operations on the extremities because the above method has the same effect and is less harmful. The method is contra-indicated in nervous children, whilst in other children it has proved useful, provided that the injection is performed under complete anæsthesia. It is also contra-indicated in senile and diabetic gangrene where cellulitis is likely to ensue. Apart from these cases the only instance where a patient was unfavourably affected by the method concerned was a woman suffering from cellulitis of the hand where a motor paresis occurred but disappeared after about a month. The author concluded that after all his method seemed to be a great step forward in the way of analgesia.

Puncture of the Epididymis.

Dr. Ernst, writing to the *Berliner Klinische Wochenschrift*, recommended puncture of the epididymis in epididymitis. A small but sharp cannula is introduced into the substance of the organs to the depth of 1 to 2 centimetres and some drops of serous or sanguinolent fluid are drawn off by a Luer's syringe. The success of this insignificant operation was striking; the pains and the feeling of tension diminished as a rule immediately and reappeared only in a few cases after 12 to 24 hours, when the operation may be repeated. The fever disappeared at once and the organ became smaller after 24 hours. A complete restitution of the inflamed organ cannot be obtained in every case either by puncture or by any other method, the majority of patients still showing some thickening infiltration after treatment. In 21 per cent., however, of the 52 cases the result was excellent, the organ having become normal.

The late Professor von Renvers.

On March 22nd there died in Berlin Professor von Renvers, chief physician to the Moabit Municipal Hospital, and one of the best-known medical men of the metropolis and of Germany. He won a great reputation by his endeavours to improve the nursing and the hygienic arrangements of the Berlin hospitals. He was, moreover, the vice-president and one of the most active members of the central committee for post-graduate study in Germany, and his efforts contributed greatly in making this matter popular in medical and government circles. Professor von Renvers was born in 1854 at Aix-la-Chapelle and was medically educated as a pupil of the army medical academy. Having qualified he became an army medical officer at Weimar and at Düsseldorf, but then left the active service to become an assistant at the Berlin University clinic for internal medicine under Professor von Leyden. In 1893 he was appointed chief physician to the Moabit Municipal Hospital and held this appointment until his death. Professor von Renvers was the model of a physician. He was a man of great charm of manner and kindly to everybody, whatever his social position. Owing to his tact and power of sympathy he exercised a great influence over his patients, and in many cases was therefore able to help or to relieve them more than other men of great theoretical knowledge. No wonder that he had one of the largest practices, and certainly the best, in Berlin, including members of various Royal families. He was one of the body physicians to the late Empress Frederick, whom he attended during her fatal illness, and for weeks nearly every third day travelled to her from Berlin to Friedrichshof Castle near Frankfort. He was also the medical attendant and the intimate friend of Prince Bülow, the Imperial Chancellor, and both men used to spend their holidays together. Professor von Renvers suffered for years from cholelithiasis, but declined to be operated on until a very severe attack of perforative peritonitis occurred on March 21st. Operation was performed by Professor Körte and Professor Sonnenburg, but death occurred within 24 hours. His death will be much regretted by thousands of his present and former patients, not only of the wealthy, but also of the poorer class, whom in many cases he aided with his purse in addition to his skill.

March 29th.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

Tuberculosis in Constantinople.

STATISTICAL investigations of a trustworthy character show that in the Turkish metropolis more than 2500 victims are carried off annually by tuberculosis. This number is given by Dr. Ali Said Bey in his treatise published lately and entitled "Tuberculose et Misère." In spite of this high figure, neither the medical authorities of the city nor the public at large take enough interest in the subject to put on foot the necessary measures for lessening the progress of the disease. Consequently it is steadily increasing. Thus, from the publications of the Conseil de Santé it is seen that in 1906 out of a total of 9515 deaths 1428 were due to tuberculosis. In 1907 there were 2331 deaths from the disease. The progress of the malady is seen also from the following statistics: in 1906 tuberculosis existed in 139 different localities, in 1907 in 226, and in 1908 in 293. Not only the unhealthy quarters without proper sanitation, but also those which seem to be fairly hygienic are attacked by it. The Mussulman and Jewish sections of the population suffer most. It may be taken for granted that the above figures as given by the Conseil de Santé are much below the real numbers, as many forms of tuberculosis, such as osseous, meningeal, and the like, are very frequently not recognised and therefore not included in the statistics. Dr. Violi, who writes on the subject in his medical periodical, *La Pédiatrie en Turquie*, says that tuberculosis is not a rare disease among the children of Constantinople, especially in early infancy.

The Returning Pilgrimage.

The *Levant Herald* publishes an article on the above subject in which it is stated that advices from Beirut show the Hedjaz railway to be leading more and more to the concentration of the homeward and outward pilgrim movement in Beirut, where alone the full quarantine formalities can be performed. This year, owing to the insecurity that reigned on the caravan route between Medina and Mecca, the pilgrims who had performed their visit to the latter town preferred to take the steamer at Jeddah for Beirut, to proceed thence by the railway to Medina, and after completing their pilgrimage at this lesser shrine return to their homes by the railway, also *viâ* Beirut again. The pilgrim return movement has only just commenced, but already there has been an extraordinary influx, and the passing of such large numbers through Beirut is a danger from a sanitary point of view. The pilgrims, however, seem to be fairly clean and considering all the precautions taken both at Jeddah and Beirut the risk of epidemics appears to be rather remote.

A New Hygienic Bureau.

The authorities of the city municipality have decided to erect a new public hygienic bureau, which is to have a medical superintendent, a bacteriologist, a chemist, and three veterinary surgeons. This bureau is intended to exercise its functions for the benefit of the population, and its agents will have to attend every case where disinfection and other sanitary measures are required.

March 27th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Dairy Supervision in Victoria.

THE Dairy Supervision Act has been in force in Victoria for two and a half years. It provided at first departmental control for districts immediately surrounding the cities of Melbourne, Ballarat, Bendigo, and Geelong, but its scope has been extended to almost all centres of milk production. The Act is now administered in 87 municipalities. There are 32 veterinary officers and supervisors engaged in the department of supervision and 10,000 dairy farms are under inspection and control. The average area of these farms is 125 acres. The average number of cows to each farm is 10, so that 100,000 cows are supervised, which is about one-seventh of the total number in the State. The milk sold in Melbourne reaches 25,000 gallons a day, being a consumption of rather over a third of a pint per head in a population of 538,000. Since the Act came into force 2395 cows have been prohibited and 500 of these destroyed. Part of the cost of administration is defrayed by licence fees. The dairy registration fee is £1 per annum, even if only one quart is sold. If a vendor employs more than three milk-carts the fee is £2 per annum. For each cow is paid a fee of 6*d.* per annum, and from these sources £4498 were received in 1907–08. The expenditure was £7766 for the same period. The operations show a loss, therefore, of £3268.

Sanitation in Sydney.

A committee of the Sydney City Council has presented two reports dealing with improved methods of refuse disposal. The first refers to street refuse, which is at present deposited in a tip in Thorne Park. The committee suggests that this material should in future be punted out to sea. The second recommendation is to erect a garbage destructor at Pyrmont. It was estimated that the cost of the proposals would be £15,000. The first proposal was suspended pending specifications, and the second was recommended by the council for adoption.

A Healthy Record.

The Women's Hospital, Sydney, publishes some remarkable figures. During the year 1908 2013 patients were treated at the institution and there was no death either among indoor or outdoor patients. The hospital was inaugurated in 1893 and since that date only 37 deaths have been recorded. The mortality rate of cases treated is only 0·4 per cent.

The Senate of Sydney University.

The recent death of Sir Arthur Renwick has left a vacancy in the Senate of the University. Two medical men were nominated, Dr. W. C. Wilkinson, who is lecturer on medicine in the University, and Dr. Cecil Purser. The proceedings are somewhat on the lines of the old hustings elections, since the proposer of each candidate has to make a speech, after which a show of hands is taken. This was declared to be in favour of Dr. Purser by 33 to 10. A poll was demanded and has resulted in the return of Dr. Purser by a large majority.

Melbourne Hospital.

Mr. J. J. Clark, the architect entrusted with the design of the new hospital, has returned from a trip to Europe and America, where he inspected all the recent hospital buildings. Plans for the Melbourne Hospital will be put in hand at once.

Mortality of Whooping-cough.

Dr. Robertson, assistant officer to the Board of Public Health, Victoria, has recently drawn attention to the fact that whooping-cough has been responsible for a greater number of deaths in Melbourne during the past three years than either typhoid fever, diphtheria, or scarlet fever. Dr. Robertson publishes the following figures:—

	1906	1907	1908	Total deaths.
Whooping-cough	201	128	60	389
Typhoid fever	132	89	173	394
Scarlet fever...	3	2	21	26
Diphtheria	48	98	111	257

Dr. Robertson deprecates the fact that this ailment is generally looked upon as of no importance and considers that parents should be warned of the possible danger and the intense infectivity of the complaint.

Talbot Milk Institute.

The Talbot Milk Institute is now supplying pure milk to infants in poor neighbourhoods of Melbourne. The milk is obtained from a farm about five miles from the centre of the city. A herd of some 50 cows are stall-fed, after being tested by tuberculin. The milking shed has a brick floor and the milking is done by machinery. The attendants wear linen suits and the udder of each cow is washed before milking. The milk is at once centrifuged and cooled. It is kept below 50° F. and forwarded to the Willsmere Dairy Depôt, where it is pasteurised and bottled for distribution. Ice chests and ice for keeping the milk cool are supplied to the householders, and a supervision over feeding is exercised by two trained nurses. The organisation is intended as a hygienic rather than a commercial object lesson, for the necessary expenditure would not be recouped at the ordinary retail price of milk.

Feb. 23rd.

Medical News.

UNIVERSITY OF LEEDS.—The following pass-lists have been issued in the Faculty of Medicine:—

FIRST EXAMINATION FOR THE DEGREES OF M.B. AND CH.B., PART I.

Chemistry and Physics.—C. M. Gozney, H. R. Knowles, M. Peto, H. P. Shackleton, H. A. Sinson, H. W. Symons, H. L. Taylor, C. Ward, and J. Wright.

SECOND EXAMINATION FOR THE DEGREES OF M.B. AND CH.B., PART I.

Anatomy and Physiology.—A. L. Bastoble, H. Caplan, L. Dunbar, C. J. H. Little, G. E. Macvie, N. V. Milton, F. W. Nunnery, William Robinson, J. B. Sinson, J. P. Walker, T. L. Walker, F. Wigglesworth, and B. W. F. Wood.

PART II.

Materia Medica and Pharmacy.—H. N. Ingham and C. B. Richardson. *Diploma in Dental Surgery: Preliminary Examination in Science.*—H. P. Shoesmith.

UNIVERSITY OF GLASGOW.—The following have satisfied the examiners in the fourth (final) professional examination for the degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.):—

John Allan, James George Anderson, William Hunter Stirling Armstrong, Douglas Morris Borland, Morris William Browdy, John Adam Gib Burton, John Cameron, Matthew Ignatius Thornton Cassidy, Weir Burns Cunningham, James Cowie Dick, Alexander Gordon Gilchrist, George Stevenson Gordon, Edward O'Driscoll Graham, James Harper, M.A.; William Howat, M.A.; John Parlane Kinloch, David Neilson Knox, Alexander Macphail Macdonald, Murdo Duncan Mackenzie, George Macleod, M.A.; Allan M'Pherson, Thomas Marlin, Henry Nimmo Rankin, Alfred Roemmele, William Wilson Rorke, William Rutherford, James Johnston Sinclair, Arthur Turnbull, M.A., B.Sc.; James Brown Whitfield, John Alexander Wilson.

The following passed with distinction in the subjects indicated:—

In (*a*) Surgery and Clinical Surgery, (*b*) Practice of Medicine and Clinical Medicine, (*c*) Midwifery: George Macleod, M.A. In (*a*) Surgery and Clinical Surgery, (*b*) Midwifery: William Howat, M.A.; William Rutherford, and Alexander Stewart. In Surgery and Clinical Surgery: Winifred Margaret Ross, James Johnston Sinclair, and Arthur Turnbull, M.A., B.Sc. In Midwifery: Matthew Ignatius Thornton Cassidy, John Parlane Kinloch, Robert Charles Robertson, and William Wilson Rorke.

TRINITY COLLEGE, DUBLIN.—At examinations held recently the following candidates were successful:—

FINAL MEDICAL EXAMINATION.—PART II.

Midwifery.—Thomas A. Hughes, Douglas M. Moffatt, Cecil P. Smyly, Henry R. Kenny, William P. H. Smiley, Desmond Drew, Joseph P. R. Poch, Brindley H. Moore, Wellesley R. Allen, Charles G. S. Baronsfeather, Peter H. Lemass, Denis J. Stokes, Wallace D. Mitchell, Hugh S. Metcalfe, and Joseph R. N. Ryan.

INTERMEDIATE MEDICAL EXAMINATION.—PART I.

Arthur Chance, Frank Crosbie, Oswald C. S. Tandy, Gerald G. P. Beckett, Hubert G. Holdbrook, William A. Taylor, Samuel A. Lane, Ronald G. M'Entire, Leonard Shiel, and James C. Kelly.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* The number of diplomas granted here in the year 1907-08 was 827; in the four previous years the numbers were 1057, 729, 845, and 553.—*Beyrout (French Faculty of Medicine and Pharmacy):* The chair of Clinical Surgery and Pathology, which was vacated last summer by the resignation of M. Hache, has not yet been filled up. This faculty enjoys the power of granting the French State diploma of Doctor of Medicine, which confers the right to practise throughout the Ottoman Empire and also in all the territories of the French Republic. The course and examinations are similar to those of the universities in France, though some of the professors and examiners are appointed by the Turkish Government. All Orientals are admitted as students, also Europeans whose families are permanently settled in the East. Last year the total number of students was 172, of whom 30 received the doctorate.—*Cincinnati (Miami Medical College):* Dr. Walter E. Murphy has been appointed Assistant Professor of Laryngology and Otology.—*Nantes:* Dr. Col has been appointed to the chair of Materia Medica in succession to M. Ménier.—*New Orleans (Tulane University):* Dr. Oliver L. Pothier has been appointed Assistant Professor of Pathological Anatomy.—*Odessa:* Dr. V. Philamoff has been recognised as *privat-docent* of Ophthalmology.—*Rome:* Dr. Tommaso Mancioli has been recognised as *privat-docent* of Otology and Laryngology.—*St. Petersburg (Military Medical Academy):* Dr. K. J. Povarnin has been recognised as *privat-docent* of Neurology and Psychiatry.—*Tübingen:* The title of Extraordinary Professor has been conferred upon Dr. Blauel, *privat-docent* of Surgery; Dr. Brunn, *privat-docent* of Surgery; and Dr. Linser, *privat-docent* of Dermatology.—*Vienna:* The title of Extraordinary Professor has been conferred upon Dr. Karl Sternberg, *privat-docent* of Pathological Anatomy; Dr. Heinrich Peham, *privat-docent* of Midwifery and Gynæcology; and Dr. Leopold Réthi, *privat-docent* of Laryngology.

MIDWIVES ACT COMMITTEE.—The ninth meeting of the Departmental Committee appointed by the Lord President of the Council to consider the working of the Midwives Act was held at the Privy Council Office on Wednesday, Mr. Almeric FitzRoy, the Clerk of the Council, presiding. The following witnesses attended and gave evidence: Sir Shirley F. Murphy, medical officer of health of the County of London, on behalf of the London County Council; Mrs. Swinton, matron of the Buckingham Palace-road workhouse of the St. George's (Hanover-square) Union, on behalf of the National Association of Workhouse Masters and Matrons; and Mr. Edward Sergeant, county medical officer of health, Lancashire, on behalf of the Incorporated Society of Medical Officers of Health and on behalf of the Midwives Act committee of the Lancashire county council.

EAST-END MOTHERS' LYING-IN HOME.—The annual meeting of this institution was held on March 24th at the Home, Commercial-road, E., when Mr. Alfred Owen Lankester presided. The medical report stated that during the year 1908 498 women were delivered, 491 children being born alive and 12 stillborn. Five died and there were five sets of twins. Of the out-patients 708 were delivered, 702 children being born alive and 16 stillborn. Three died and there were ten sets of twins. Mr. M. Cursham Corner, honorary visiting medical officer and lecturer, in concluding his report says: "1908 has been not inaptly called the Children's Year. Its influence may bring about better parental conditions, as well as improved surroundings, both before and after birth. The commonest causes of infantile mortality are poverty, ignorance, and neglect, and the predominating one in the East-end is poverty." He also called attention to the remarkable fact that no maternal death occurred in connexion with the work of the institution during the year. Financial help is greatly needed for this deserving institution.

THE LONDON FIRE BRIGADE.—The report of the Fire Brigade Committee of the London County Council submitting the report of the chief officer of the Fire Brigade, Captain J. de C. Hamilton, for the year 1908 has recently been published. The number of deaths by fire was the same as in 1907—viz., 93; of these victims 66 were injured and removed before the brigade was called, and of the remaining 27, 10 were taken from the buildings by firemen, but succumbed afterwards. It is the custom of the report to include all deaths from fire in the county of London, whether the brigade was called to deal with the outbreak which occasioned them or not. The 93 lives were lost in 84 separate fires and 53 of the fatalities concerned children under 12 years of age. These were in 31 cases due to the victims playing with fire or matches; mineral oil was responsible for 7; 10 were caused by clothing coming into contact with oil or gas stoves; and 10 by sparks from fires. The practice of leaving young children in rooms where unguarded fires are burning is rightly reprehended and the report points out that under the Children Act, 1908, which comes into force on April 1st, this form of carelessness will be made a penal offence if it result in serious injury to the child. Attention is also drawn to the fact that considerable danger is incurred in following the advice given in certain newspapers regarding the use of petroleum as a cleansing agent. Amongst the statistics given we note that the brigade attended 3238 fires, excluding 791 chimney fires, during 1908, and of this number 61 were reported as "serious." The chief officer of the brigade regrets that many new buildings are being erected in which unprotected constructional ironwork is used, and also that the valuable properties of fire-resisting glass have not received wider appreciation. In referring to notable fires of the year the report notes that 2500 feet of hose had to be coupled up to reach the seat of fire near the Moorgate-street Station on the occasion of the outbreak on the City and South London Railway. We are glad to learn that improvement has been made in the metropolitan water-supply available for brigade

purposes, and that a radical improvement is being effected in the fire-alarm system, involving improved telephone facilities for calling the brigade. The chief officer lays it down that a knowledge of the position of the nearest fire-alarm or fire station is the duty of every citizen. Perhaps the most interesting part of the report is that dealing with the employment of motor traction for brigade purposes, which is being gradually extended with such good results that future stations erected will be entirely motor stations. There are at present three with complete motor equipment, which includes altogether six steam motor fire-engines, five petrol motor tenders (including one first-aid motor), six petrol motor-escape vans, and four service motor-cars. Horsed appliances have, of course, done splendid work in the past, but the advantages of motor traction are so apparent that we are glad to see the brigade does not intend to adopt a conservative policy in the matter.

OPHTHALMOLOGY AT OXFORD.—The sixth annual post-graduate course on ophthalmology in connexion with the Faculty of Medicine of the University of Oxford has been arranged from July 5th to 17th. The main idea of the course is to demonstrate (in actual patients as far as possible) the whole range of ophthalmology, in order to make the reading of a text-book more profitable than can be the case when relying merely on pictures. The first part of the course will be mainly devoted to demonstrating the practical examination of eye patients, the use of the ophthalmoscope, and the work of refraction. During the second part the work will be more specialised and lectures will be delivered by various ophthalmic surgeons. As well as the mere routine cases, there will be a large selection of patients of unusual interest for the benefit of those who are more experienced in eye work. Altogether some 500 cases will be present for demonstration. The course will be illustrated by the lantern. The fee for the course is £5 5*s*. Medical men attending the course will be provided with board and residence at Keble College at the rate of 7*s*. 6*d*. a day during the second week, but during the first week lodgings must be secured. Further particulars can be obtained from Mr. Robert W. Doyne, Margaret Ogilvie's reader in ophthalmology in the University of Oxford, 30, Cavendish-square, London, W.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following is the list of prizes awarded for the winter session, 1908–09:—Descriptive anatomy: Junior: W. I. Adams, first prize (£2) and medal; G. E. Pepper, second prize (£1) and certificate. Senior: M. J. Hillery, first prize (£2) and medal; I. M. Swanepoel, second prize (£1) and certificate. Practical anatomy: First year: G. E. Pepper, first prize (£2) and medal; H. A. S. Deane, second prize (£1) and certificate. Second year: A. G. Mosbery, first prize (£2) and medal; I. M. Swanepoel, second prize (£1) and certificate. Practice of medicine: W. V. Johnston, first prize (£2) and medal; J. S. Pegum, second prize (£1) and certificate. Surgery: J. S. Pegum, first prize (£2) and medal. Midwifery: F. W. Warren, first prize (£2) and medal; J. S. Pegum, second prize (£1) and certificate. Physiology: S. Griffin, first prize (£2) and medal; M. J. Hillery, second prize (£1) and certificate. Chemistry: J. C. Sproule, first prize (£2) and medal; B. Goldberg, second prize (£1) and certificate. Pathology: J. T. Duncan, first prize (£2) and medal; T. M. Thomson, second prize (£1) and certificate. Physics: E. Connell, first prize (£2) and medal; J. C. Sproule, second prize (£1) and certificate. The lectures and practical courses of the summer session commenced on Thursday, April 1st.

THE PUBLIC MEDICAL SERVICE AT HAMPSTEAD.—On March 30th, at the Hampstead Conservatoire, a meeting of the local profession was held, under the auspices of the Hampstead Division of the British Medical Association, to consider proposals for the establishment of a public medical service in Hampstead, in order to provide for uniformity in contract practice and for the treatment of poor school children under the new Medical Inspection Act. In proposing the first motion,

That it is desirable that a Public Medical Service be formed in Hampstead and neighbourhood for the organisation and provision of medical attendance for persons unable to pay the ordinary medical charges in the usual manner,

Mr. C. W. Cunnington laid stress on the many ways in which lay bodies threaten to curtail general practice, and advocated medical organisation to meet those dangers. Dr. J. Ford Anderson, in seconding, enlarged on the abuses of contract practice. The motion was carried unanimously. Dr. H. J. Macevoy proposed the second motion—

That this meeting appoint an organising committee to draw up rules for the proposed service, to recommend names for its officers and committee, and to secure the adhesion of the medical practitioners in Hampstead and the neighbourhood to the service,

and expressed a hope that the service would federate all the various interests engaged in practice among the wage-earners. Mr. W. W. Stocker having seconded the motion, it was carried unanimously. The following practitioners were then appointed to serve on the organising committee: Dr. Ford Anderson, Mr. S. L. Archer, Dr. L. Barnett, Mr. Cunnington, Dr. Percy C. Evans, Dr. W. Winslow Hall, Dr. Macevoy, Dr. Picard, Dr. G. D. Pidcock, and Mr. A. R. Roche.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Ambulance Service in the Metropolis.

THE Departmental Committee on the ambulance service in the metropolis has presented a report condemning the existing arrangements as insufficient and defective. (The report is dealt with at length in another column.)

Medical Acts Amendment Bill.

Mr. COOPER has presented a Bill in the House of Commons designed "to regulate the administration of anæsthetics, to make regulation relative thereto, and to amend the Medical Acts." He has given it the name of the Medical Acts Amendment Bill. It has been read a first time. In introducing the Bill Mr. COOPER has the support of Sir WALTER FOSTER, Sir WILLIAM COLLINS, Sir JOHN BENN, Mr. ACLAND ALLEN, Mr. BARNES, Dr. RUTHERFORD, Mr. BERTRAM STRAUS, and Mr. CARR-GOMM. The text of the Bill is not yet issued. However, its principal terms have transpired. The first clause of the Bill requires that after Jan. 1st, 1911, no person shall be registered by the General Medical Council unless he submits satisfactory evidence that he has been instructed in the administration of anæsthetics. After that date it is proposed that no person except a registered medical practitioner may give any vapour, gas, or drug, solid or liquid, with the object of producing unconsciousness during any operation, examination, or childbirth. The penalty is £10 for a first offence and £20 for a second. A proviso is introduced to deal with cases of urgency or cases under the supervision of a registered medical practitioner. A power is given to the General Medical Council to make orders and regulations. Further, the subject of giving certificates of death in the case of persons dying under an anæsthetic is dealt with. The Bill also takes cognisance of dentists, and it is proposed to allow persons already registered under the Dental Act at the time when the Bill takes effect still to enjoy the right to give an anæsthetic for a dental operation.

The Royal Commission on Tuberculosis.

It is expected that the work of the Royal Commission on Tuberculosis will come to a close within the financial year 1909–10. It was appointed in August, 1901, and has issued three interim reports. The estimates set apart £3939 for the expenses of the Commission this year. Of this sum £3050 are to be devoted to scientific investigations. During the financial year 1908–09 the vote for the Commission amounted to £5491, of which £4582 went to the expense of scientific investigations.

The Oaths Bill.

The Oaths Bill, which is designed to substitute as far as possible the taking of the oath with uplifted hand for the practice of "kissing the Book," is making rapid progress. It has emerged from a Standing Committee of the House of Commons in a stronger form. If no further change is introduced into it the judge or magistrate will administer the oath with uplifted hand in all cases except when the witness asks to be sworn in some other fashion.

Registration of Nurses (Scotland) Bill.

Mr. CLELAND has introduced into the House of Commons a Bill "to establish and make regulations to provide for a register of nurses in Scotland." This is the third Bill dealing with the registration of nurses now before the House of Commons.

HOUSE OF COMMONS.

WEDNESDAY, MARCH 24TH.

Legislation on Tuberculosis.

Mr. HUDSON asked the President of the Local Government Board whether it was his intention during the present session to promote legislation for the eradication of tuberculosis, human as well as bovine, on national and compulsory lines, or whether it was his intention to so deal with this matter at a later period during this present Parliament. —Mr. BURNS replied (by written answer): Legislation on the subject of

bovine tuberculosis is at present receiving my attention in connexion with the Milk Bill which I propose to introduce. As regards human tuberculosis, I do not at the moment contemplate legislation on the subject. I have recently issued an Order providing for the compulsory notification of pulmonary tuberculosis when occurring amongst persons in Poor-law institutions or under the care of Poor-law medical officers; and this Order has, I am glad to find, stimulated voluntary notification of the disease when occurring among other persons in the large number of districts where a system for that purpose is in force. I shall by no means lose sight of the matter, but I think that developments with regard to it must be gradual.

THURSDAY, MARCH 25TH.

Small-pox at Bristol.

Mr. CAVE asked the President of the Local Government Board whether an outbreak of small-pox had occurred in Bristol; whether, in spite of the advice of the Board's inspector, the board of guardians refused to make special arrangements for the vaccination of unvaccinated children and for revaccination; whether, on the Local Government Board themselves instructing the vaccination officer to provide special facilities, the health committee refused to permit the issue by their medical officer of bills notifying the names of the vaccinators and the places where they would attend for vaccinations; how many cases of small-pox had already occurred in the city and how many had proved fatal; and what steps the Local Government Board proposed to take in the matter.—Mr. BURNS replied: The answer to the first two points in the question is in the affirmative. I have caused one of the medical officers of the Local Government Board to pay two visits to Bristol and the neighbourhood owing to the outbreak, and he has conferred with the authorities and officers concerned as to the precautions which should be adopted, and various measures have been taken accordingly.

The Milk-supply in France and Germany.

Mr. LEWIS HASLAM asked the President of the Board of Trade whether his attention had been called to the fact, as stated in the *Board of Trade Labour Gazette* for March, that the retail price for milk in urban centres was, when the investigation was made in October, 1905, 25 per cent. cheaper in Germany and 30 per cent. cheaper in France than in England; would he state whether the relative cheapness in those countries was due to municipal or Government action; and would he state, or take means to endeavour to ascertain, why milk was practically the only exception to the rule that the principal articles consumed by the working classes in this country were much cheaper than in France or Germany.—Mr. CHURCHILL furnished the following written answer: The relative cheapness of milk in France and Germany appears to be due, not to municipal or Government action, but to greater scale of production and smaller cost of distribution. The scale of production is larger both in France and Germany, the number of cows kept being 18 per 100 of the population in Germany and 19 in France, as against 10 per 100 in the United Kingdom. The distance which milk has to be brought to the house is, as a rule, not so great as in this country, and the milk is commonly distributed to the consumer by means of barrows drawn by dogs and led by women and not, as in this country, by means of carts drawn by horses and driven by men.

The Sanitary Condition of Seamen's Sleeping Quarters.

Mr. LEWIS HASLAM asked the President of the Board of Trade whether his attention had been called to the report of Dr. J. Howard-Jones, medical officer of health of Newport (Mon.), in which he called attention to the offensive and insanitary condition of the seamen's sleeping quarters and other accommodation in many ships, some of which were new; and whether he would cause a thorough investigation to be made by the officers of the Board of Trade, with the view of inforcing the adoption of proper sanitary conditions on such ships.—Mr. CHURCHILL wrote in reply: On the receipt of this report in October last the Board of Trade at once made inquiries into the particular case referred to by the medical officer, and the defects which had been observed were made good. Similar action is always taken when particular cases are reported by the local sanitary authorities.

TUESDAY, MARCH 30TH.

Glycerinated Calf Lymph in Ireland.

Answering Mr. LUPTON, Mr. BIRRELL said: The Local Government Board for Ireland inform me that the glycerinated calf lymph procured by them under contract from the National Calf Vaccine Institute, Sandymount, Dublin, is, before issue from the Board's vaccine department, tested as to its efficiency and subjected to careful bacteriological examination. Its purity is thus insured. The dispensary medical officers throughout the country being aware of these arrangements to secure proper lymph, a further certificate of purity appears to the Board to be unnecessary.

WEDNESDAY, MARCH 31ST.

Aliens and Trachoma.

Mr. RUPERT GUINNESS asked the Secretary of State for the Home Department whether his attention had been drawn to the number of newly arrived aliens who presented themselves at the Royal London Ophthalmic Hospital for treatment for long-standing trachoma, and to the fact that as many as 90 per cent. of the sufferers from this disease during the six months with which the last report of the hospital dealt were aliens, and to the chairman's recommendation that aliens who had contracted this disease should be prevented from landing in this country; and whether, in view of the fact that this disease was being introduced into this country on an extensive scale by aliens who had not submitted themselves to an inspection at an immigration port, he would consider the expediency of lowering the number of alien immigrants who could be carried in a non-immigrant ship at all events as concerned vessels bringing aliens to the port of London.—Mr. GLADSTONE replied: I understand that the statement mentioned in the first part of the question was made by the chairman of the Royal London Ophthalmic Hospital at the recent annual general meeting of the governors. Without altogether accepting as correct the further statement made by the honourable Member, I may say that I am asking for further and more exact information as regards the general statements contained in the question.

BOOKS, ETC., RECEIVED.

BALE (JOHN), SONS, AND DANIELSSON, LIMITED, London.

Notes and Thoughts from Practice. By W. J. Tyson, M.D., F.R.C.P., F.R.C.S. Price 2s. net.

BERGMANN, J. F., Wiesbaden. (F. BAUERMEISTER, Glasgow.)

Beiträge zur Pathologischen Anatomie des Ohres bei Lues Hereditaria. Von Dr. K. Asai, Kioto (Japan). Price 4s.

Landläufige Irrtümer in der Beurteilung von Geisteskranken. Von Dr. med. Oswald Bumke. Price 2s. 3d.

Die Untersuchungsmethoden und Erkrankungen der männlichen und weiblichen Harnorgane für Aerzte und Studierende. In XVII. Vorlesungen. Von Dr. L. Burkhardt und Dr. O. Polano. Price 10s.

Was leisten die Röntgenstrahlen in der Rhino-Laryngologie? Von Prof. Dr. H. Burger. Price 5s.

Der Anteil der Funktion an der Entstehung von Nervenkrankheiten. Von Dr. Ludwig Edinger. Price 2s. 3d.

Die Operative Geburtshilfe der Praxis und Klinik. In zwanzig Vorträgen. Von Dr. Hermann Fehling. Price 4s.

Tafeln zur Entlarvung der Simulation einseitiger Blindheit und Schwachsichtigkeit. Nach Snellen entworfen. Von Stabsarzt Dr. von Haselberg. Price 2s.

Die Otitischen Erkrankungen des Hirns, der Hirnhäute und der Blutleiter. Nachträge zur Dritten Auflage. Von Dr. Otto Körner. Price 3s.

Dermatologischer Jahresbericht. Unter Mitwirkung von Fachgenossen und in Verbindung mit W. Tamms. Herausgegeben von O. Lassar. Erster Jahrgang: über das Jahr, 1905. Price 18s.

Somnambulismus und Spiritismus. Von Dr. L. Loewenfeld. Price 2s. 3d.

Kurzgefasster praktischer Ratgeber für Irrenärzte und solche, die es werden wollen. Von Dr. Georg Lomer. Price 1s. 3d.

Über das Verhalten Hämolytischer Serumstoffe beim gesunden und kranken Kind. Von Dr. Ernst Moro. Price 3s.

Lehrbuch der Nachbehandlung nach Operationen. In Vorlesungen. Für Studierende und Aerzte. Bearbeitet von Prof. Dr. Paul Reichel. Price 12s.

Die Funktionsprüfung des Darmes mittelst der Probekost, ihre Anwendung in der ärztlichen Praxis und ihre Diagnostischen und therapeutischen Ergebnisse. Von Prof. Dr. Adolf Schmidt. Zweite vermehrte und verbesserte Auflage. Price 3s.

Akute Überanstrengung des Herzens und deren Behandlung. Von Professor Dr. Schott. Vierte, erweiterte Auflage. Price 2s. 3d.

Unfälle durch Elektrische Starkströme. Eine klinische und gerichtlich-medizinische Studie. Von Dr. E. D. Schumacher. Price 2s. 3d.

Das Auge des Geburtshelfers. Eine Studie über die Beziehungen des Tastsinnes zum geburtshilflich-gynäkologischen Fühlen. Von Hugo Sellheim. Price 1s. 10d.

Die Trajektoriellen Strukturen. Von Dr. Hermann Triepel. Price 6s.

Schemata für Augenmuskellähmungen. Von Dr. E. Wölfflin. 25 Blatt in Mappe. Price 3s.

Frankfurter Zeitschrift für Pathologie. Herausgegeben von Eugen Albrecht. Erster Band, zweites Heft. Price 5s. Zweiter Band, Heft 1., Price 7s. Zweiter Band, Heft 2/3. Price 7s.

Stereoskopische Bilder, 24 Tafeln zum Gebrauch für Schielende. Von Augenarzt Dr. A. v. Pflugk. Zweite Auflage. Price 3s.

CASSELL AND COMPANY, LIMITED, London, New York, Toronto, and Melbourne.

A Manual of Operative Surgery. By Sir Frederick Treves, Bart., G.C.V.O., C.B., LL.D., F.R.C.S., and Jonathan Hutchinson, F.R.C.S. Third edition. In Two Volumes. Vol. I. Price 18s. net.

Mind and Work. By Luther H. Gulick, M.D. Price 3s. 6d. net.

FISCHER, GUSTAV, Jena.

Die Wassermannsche Serodiagnostik der Syphilis in ihrer Anwendung auf die Psychiatrie. Von Dr. med. Felix Plaut. Price M.4.50.

GLAISHER, HENRY J., London.

Joseph Toynbee, F.R.S., Aural Surgeon. By Gertrude Toynbee. Price 3d. net.

HIRSCHWALD, AUGUST, Berlin.

Sammlung Klinischer Abhandlungen über Pathologie und Therapie der Stoffwechsel-und Ernährungsstörungen. Herausgegeben von Prof. Dr. Carl von Noorden. 7. und 8. Heft. Price M. 2.80.

MARHOLD, CARL, Halle a. S.

Beiträge zu neueren therapeutischen Massnahmen in der Geburtshilfe. Von P. Baumm, Breslau. Über Parametritis posterior und ihre Behandlung. Von M. Graefe. Einzelpreis dieses Heftes, M.1.50.

Die parenchymatöse Hornhaut-Entzündung. Von Dr. Karl Hoor. Einzelpreis dieses Heftes, M.3.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.

BOSTOCK, A. H., M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer for the Oving and Boxgrove Districts of the Westhampnett Union, Chichester.

MANSON, J. S., M.B., Ch.B. Edin., has been appointed Honorary Assistant Surgeon to the Warrington Infirmary.

MILNE, LINDSAY S., M.B., Ch.B. Edin., has been appointed First Assistant in the Russell Sage Institute for Pathology, New York, U.S.A.

MORSE, EDWARD, L.R.C.P. & S. Edin., has been appointed Medical Officer of Health of Torrington (Devon).

MORTON, W. B., M.D. Lond., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Superintendent of Wonford House, Exeter.

O'BRIEN, JOHN, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Assistant Medical Superintendent of Toowoomba Asylum, Queensland.

ROSE, WILLIAM, M.B., B.S. Lond., F.R.C.S. Eng., has been appointed Consulting Surgeon to the British Hospital for Mental Disorders and Brain Diseases, Camden-road, N.W.

SIMPSON, HAROLD C., L.M.S.S.A. Lond., has been appointed Medical Officer of Health for the Skirlaugh Rural District Council, Hull.

WHITE, CLIFFORD, M.D., B.S. Lond., M.R.C.P. Lond., has been appointed Pathologist and Registrar to Queen Charlotte's Lying-in Hospital.

WORGER, THOMAS HEWLETT, M.R.C.S., L.S.A., has been reappointed Medical Officer of Health for the Radstock (Somerset) Urban Council.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ALL SAINTS HOSPITAL FOR OUT-PATIENTS, Buxton-street, E.—Honorary Medical Officer for Monday afternoons.

BARKING TOWN URBAN DISTRICT COUNCIL.—Medical Officer of Health. Salary £365 per annum.

BARNSLEY, BECKETT HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board and lodging.

BIRKENHEAD UNION INFIRMARY AND SANATORIUM.—Resident Assistant Medical Officer. Salary £120 per annum, with board, washing, and apartments.

BIRMINGHAM AND MIDLAND FREE HOSPITAL FOR SICK CHILDREN.—Resident Medical Officer. Also Resident Surgical Officer. Salary in each case £80 per annum, with board, washing, and attendance.

BIRMINGHAM, CITY OF.—Assistant Medical Officer of Health. Salary £250 per annum.

BRADFORD CHILDREN'S HOSPITAL.—House Surgeon. Salary £100 per annum.

BRISTOL, BRISLINGTON HOUSE PRIVATE ASYLUM.—Senior Resident Physician.

BRISTOL GENERAL HOSPITAL.—House Physician, Casualty House Surgeon, and Assistant House Physician for six months. Salary £60, with board, residence, &c.

BRIXTON DISPENSARY, Water-lane, S.W.—Resident Medical Officer, unmarried. Salary £150 per annum, with apartments, attendance, &c.

BROWN ANIMAL SANATORY INSTITUTION.—Superintendent. Salary £300 per annum.

CANCER HOSPITAL, Fulham-road, London, S.W.—Surgical Registrar, Salary £226 5s. per annum.

CANTERBURY BOROUGH ASYLUM.—Locum Tenens Assistant Medical Officer. Salary 3 guineas a week, with board, lodging, laundry, and attendance.

CANTERBURY, KENT AND CANTERBURY HOSPITAL.—House Surgeon, unmarried. Salary £90 per annum, with board and lodging.

CAPE OF GOOD HOPE, COLONY OF.—Leprosy Research. Salary at rate of £450 per annum, with quarters and three rations.

CAPETOWN, SOMERSET HOSPITAL.—Two Assistant Medical Officers. Salary £200 per annum, with rations and quarters.

CHELTENHAM GENERAL HOSPITAL.—Honorary Surgeon for Eye, Ear, Nose, and Throat Diseases. Also Honorary Clinical Pathologist.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House Physician for six months. Salary at rate of £75 per annum, with board and residence.

COLCHESTER, ESSEX COUNTY HOSPITAL.—House Surgeon. Salary £80 per annum, with board, washing, and residence.

DUDLEY GUEST HOSPITAL.—Assistant House Surgeon. Salary £60 per annum, with residence, board, and lodging.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—House Surgeon and Assistant House Surgeon. Salaries £80 and £40 per annum respectively, with board and washing.

GREAT NORTHERN CENTRAL HOSPITAL.—Clinical Assistant in the Ear and Throat Department.

HACKNEY UNION WORKHOUSE, &c., Homerton, E.—Senior Assistant Medical Officer. Salary £150 per annum, with rations.

HAMPSTEAD GENERAL HOSPITAL.—Medical Officer in charge of the X Ray and Electrical Department. Salary 25 guineas per annum.

HARTLEPOOLS HOSPITAL.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians for six months. Salary £25.

HOSPITAL FOR EPILEPSY AND PARALYSIS AND OTHER DISEASES OF THE NERVOUS SYSTEM, Maida Vale, W.—Resident Medical Officer for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon; also Assistant Casualty Medical Officer; both unmarried, for six months. Salary in each case £30, with board and residence.

LANARK MIDDLE WARD ISOLATION HOSPITAL, near Motherwell.—Physician-Superintendent. Salary £200 per annum, with board, &c.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary £100 per annum, with board and lodging.

LEEK, STAFFORDSHIRE COUNTY ASYLUM, Cheddleton.—Temporary Assistant Medical Officer for six months. Salary at rate of £150 per annum, with apartments, board, and washing.

LINCOLN HOSPITAL FOR MENTAL DISEASES.—Assistant Medical Officer. Salary £100 per annum.

LIVERPOOL INFIRMARY FOR CHILDREN.—Resident Medical Officer for six months. Salary £30, with board and lodging.

LIVERPOOL, STANLEY HOSPITAL.—Senior House Surgeon. Also Two Junior House Surgeons. Salary of former £100 per annum, and of latter £60 per annum.

MACCLESFIELD GENERAL INFIRMARY.—Junior House Surgeon. Salary £60 per annum, with board and residence.

MANCHESTER, MONSALL FEVER HOSPITAL.—Medical Superintendent. Salary £425 per annum.

MANCHESTER WORKHOUSE, Crumpsall.—Assistant Medical Officer, unmarried. Salary £130 per annum, with apartments, washing, and attendance.

MARGATE, ROYAL SEA BATHING HOSPITAL.—Honorary Assistant Visiting Surgeon. Also Resident Surgeon as Junior and Senior. Salary of the two offices at rate of £80 and £120 per annum respectively, with board and residence.

METROPOLITAN BOROUGH OF ST. MARYLEBONE.—Medical Officer of Health. Salary £600 per annum.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead and Northwood, Middlesex.—Senior and Junior Resident Medical Officers. Salary of former £100 per annum and of latter £50 per annum, with board and residence.

NEWCASTLE-ON-TYNE HOSPITAL FOR SICK CHILDREN.—Resident Medical Officer. Salary £100 per annum, with board, lodging, and laundry.

NORTHUMBERLAND, CHILDREN'S SANATORIUM.—Resident Medical Officer (female). Salary £25 per annum, with board and residence.

NORWICH, NORFOLK AND NORWICH HOSPITAL.—Assistant House Surgeon for six months. Salary £20, with board, lodging, and washing.

OLDHAM INFIRMARY.—Junior House Surgeon. Salary £75 per annum, with board, residence, and washing.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—House Physician and House Surgeon for six months. Salary in each case at rate of 50 guineas per annum, with board and residence.

POPLAR HOSPITAL FOR ACCIDENTS, Poplar, E.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board and residence.

RAINHILL, NEAR LIVERPOOL, COUNTY ASYLUM.—Assistant Medical Officer, unmarried. Salary £150 per annum, with apartments, board, attendance, and washing.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—House Physicians and House Surgeons (male and female), for six months. Board, lodging, and washing provided.

ROYAL NAVAL MEDICAL SERVICE.—Examination for 15 Commissions.

ST. MARYLEBONE GENERAL DISPENSARY, 77, Welbeck-street, Cavendish-square, W.—Honorary Physician. Also Honorary Anæsthetist.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone-road, N.W.—Clinical Assistants.

SOUTHPORT EDUCATION DEPARTMENT.—School Medical Officer. Salary £250 per annum.

SOUTHPORT INFIRMARY.—Resident Junior House and Visiting Surgeon, unmarried, for six months. Salary at rate of £70 per annum, with residence, board, and washing.

SWANSEA GENERAL AND EYE HOSPITAL.—House Physician. Salary £75 per annum.

TAUNTON AND SOMERSET HOSPITAL, Taunton.—Resident Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and laundry.

VENTNOR, ROYAL NATIONAL HOSPITAL FOR CONSUMPTION.—Assistant Resident Medical Officer, unmarried. Salary £100 per annum, with board and lodging.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—House Surgeon for six months. Salary £30, with board and lodging.

WAKEFIELD, CLAYTON HOSPITAL.—Junior House Surgeon, unmarried Salary £80 per annum, with board, lodging, and washing.

WALLASEY DISPENSARY AND VICTORIA CENTRAL HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with apartments, board, and service.

Births, Marriages, and Deaths.

BIRTHS.

ANDERSON.—At Newholme, Pitlochry, on March 25th, the wife of John Anderson, M.B. & C.M. Edin., of a son.

DEAN.—On Tuesday, March 16th, at 29, Wieland Strasse, Charlottenburg, Berlin, the wife of H. R. Dean, M.A., M.B. Oxon., M.R.C.P., of a son.

HARVEY.—On March 24th, at Clarence Villa, Hartfield-road, Wimbledon, the wife of Joseph Harvey, M.B., of a son.

HOBDAY.—On March 26th, the wife of James Hobday, B.A., M.B. Cantab., Beverley House, Muswell Hill, N., of a son.

MCRAE.—On Friday, March 26th, at Glengall House, Ayr, the wife of G. Douglas McRae, M.D., F.R.C.P.E., of a son, surviving only 36 hours.

PALIN.—On March 26th, at The Oaks, Fakenham, Norfolk, the wife of Edward W. Palin, M.A., M.B. Oxon., M.R.C.S., L.R.C.P., of a daughter.

SCOTT.—On March 31st, at 46, Queen Anne-street, Cavendish-square, W., the wife of Sydney R. Scott, M.S. Lond., F.R.C.S. Eng., of a son.

SPITTA.—On March 24th, at Wimbledon, S.W., the wife of Harold Spitta, M.D., of a son.

DEATHS.

BLAIKIE SMITH.—On March 24th, at Villa Victoria, San Remo, Patrick Blaikie Smith, M.D., late of Aberdeen.

COLLET.—On March 29th, at Ashurst Lodge, Worthing, Augustus Henry Collet, B.A. Cantab., M.R.C.S. Eng., L.S.A., Senior Surgeon Worthing Hospital, in his 65th year.

GERVIS.—On March 24th, Frederick Harcourt Gervis, M.D., M.R.C.S., L.R.C.P., aged 37 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE RATE OF COOLING OF VARIOUS POULTICES.

DURING the last few years the idea has gained ground that the old-fashioned bread and linseed poultices do not retain their heat so long as poultices of the cataplasma kaolini type, made from kaolin and glycerine. But it would appear, from experiments made by Dr. J. D. Pilcher in the Pharmacological Laboratory of the Western Reserve University (*Journal of the American Medical Association*, March 6th), that this idea is baseless. A comparison of the rates of cooling of several poultices showed that a linseed poultice cools slightly more slowly than a kaolin poultice. During the first 20 minutes, down to 75° C., the temperatures ran fairly parallel, and then the temperature of the linseed poultice remained about 5° C. above that of the kaolin poultice until the close of the experiment. Dr. Pilcher found that oatmeal, bread, and corn-meal poultices apparently retain their heat even somewhat better than the linseed poultice; the curves show a difference of from two to eight degrees between the temperatures of these masses and kaolin poultice. In order to determine the reason for the rapid cooling of the latter, experiments were made comparing its rate of cooling with that of its chief constituents. It was observed that dry kaolin cools more quickly than the kaolin poultice, while glycerine cools much more slowly. The temperature curves of glycerine and linseed poultice are practically the same. It was also found that water cools at about the same rate as kaolin poultice, while soft paraffin cools rather more quickly. These experiments are of great practical value, since they demonstrate the superiority of the time-honoured and cheap linseed or bread poultice over the much more expensive kaolin poultice. In cases where it is required to cover large areas the price of the latter becomes prohibitive for poor patients, whereas they are able to purchase for a few pence sufficient crushed linseed to cover a large area with a poultice of considerable thickness.

A SIMPLE EXPEDIENT.

To the Editor of THE LANCET.

SIR,—In THE LANCET of March 6th I notice a reference to a "clip attachment" for preventing clinical thermometers falling out of the pocket when one stoops. This useful article has come too late for me, however, who have for many years used a device as simple and inexpensive as it is efficient, and which is already in the possession of every medical practitioner and can be applied in a few seconds. Having broken many clinical thermometers in stooping—e.g., to inflate cycle tyres—I thought of a fountain-pen clip, but rejected it as only adding to the many contents of one's pockets, and bethought myself of the admirable non-slipping qualities of rubber. I found that by twisting a small thin rubber band several times around the thermometer case or fountain-pen it was impossible for such an article to fall out of the pocket, and I cordially recommend this simple device to all in need of it. My only fear is that it will not meet with the approval of makers of clinical thermometers, whose output its adoption will certainly restrict. I am, Sir, yours faithfully,

Driffield, East Yorks, March 29th, 1909. A. T. BRAND, M.D. Aberd.

AN ENEMA SYRINGE AS A FIRE EXTINGUISHER.

"M. W. G." sends us an account of an exciting experience which she had recently whilst nursing a confinement case in the South of England, and in which the situation appears to have been saved by her prompt action. The case was in an old house, and one morning a large oak beam in the chimney of the patient's room, about four feet above the grate, caught fire. No obvious means of extinguishing it being at hand, "M. W. G." bethought herself of her Higginson's enema syringe, and standing a jug of water in the grate she used the syringe to play upon the blazing beam for nearly an hour with such effect that the fire was extinguished. Her patient fortunately slept through the occurrence. It was found next morning that the beam had been burnt in 3 feet of its length and 6 inches of its depth, so there is [every reason to think that the house owes its security to the nurse's resourcefulness and hard work. We congratulate "M. W. G." on the happy issue, the more especially as we know of a previous instance in which the same device was applied unsuccessfully on the occasion of a fire low down in the chimney of a ward in a south coast hospital. On that occasion the patients by no means slept through it all, for pailfuls of water had to be thrown up the chimney, and by the time the fire was extinguished the ward was in a state of partial flood, and a heated discussion was proceeding between the house surgeon and the local constabulary as to whether the fire brigade should or should not be summoned.

MEDICAL GOSSIP FROM 1847.

A CORRESPONDENT sends us the following extracts from the *Illustrated London News* of March 13th, 1847, commenting upon the perfection of anæsthesia at so early a date. The description of the patient's conduct is certainly interesting but hardly seems consistent with a very complete anæsthesia. "A considerable portion of the lower jaw-bone of a person named Riley was removed at the Devonport Workhouse a few days ago without the slightest pain, the patient being under the influence of ether. He smiled and talked while the parts were being dissected." Our correspondent adds: Lower down in the same column is this paragraph:—"At the last returns under the Income Tax Act no fewer than 30 surgeons practising in London admitted that their professional earnings amounted to £10,000 per annum each, and of these three were upwards of £20,000 each." It would be interesting to know how this compares with the returns for last year.

THE AERIAL LEAGUE.

A MEETING of the Aerial League of the British Empire is to be held at the Mansion House on April 5th at 3 P.M., the Lord Mayor presiding. The league is a non-political organisation and its object is stated to be "to secure and maintain for the Empire the same supremacy in the air as it now enjoys on the sea." The league wishes to bring home to the minds of the inhabitants of the Empire in general and of London in particular that while other countries are spending enormous sums of money for the encouragement of "aviation" England is doing practically nothing. A preliminary meeting was held at the Carlton Hotel on Feb. 21st, which made it plain that there is a large amount of interest taken in the matter by people of all classes, which only wants organising in order to become a focus for a national movement. With the many political problems which aerial locomotion may bring to a head we as medical journalists have nothing to do. But when flying becomes as common a mode of locomotion as other forms of travel are now, there will be many problems in connexion with the transmission of epidemic diseases, such as cholera and plague, which will demand the closest attention from those whose duty it is to protect their countries from possible invasion by such disease.

A CORRECTION.

THE Dusmo Company, Limited, of West Ham-lane, Stratford, E., point out that in our analytical notice of their dustless sweeping powders last week the name "Lyndus" applied to one of them should have been written *Lydus*.

K. R.—We are making inquiry into the matter.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

TUESDAY.

THERAPEUTICAL AND PHARMACOLOGICAL SECTION (Hon. Secretaries—J. Gray Duncanson, H. Charles Cameron): at 4.30 P.M.

Papers:

Dr. Gordon Sharp: Experiments and Experiences with the Heart Tonics—Pharmacological and Clinical.

Dr. William Bain: The Action of Digestive Ferments upon Each Other.

PATHOLOGICAL SECTION (Hon. Secretaries—Leonard S. Dudgeon, O. Grünbaum) at the National Hospital, Queen-square, W.C.: at 8.30 P.M.

Dr. F. W. Mott, F.R.S., and Dr. Edgar Schuster: The Examination of the Brain from a Case of Death by Electric Shock.

Dr. E. F. Buzzard and Dr. G. M. Holmes: The Post-mortem Examination of Six Cases of Myasthenia Gravis.

Dr. G. M. Holmes: Degeneration of the Upper Motor Neurones in Different Conditions.

Dr. Pietre Rondoni: Bilateral Lesions of the Oculo-motor Nuclei in a Case of Tabo-paralysis with Bilateral Ophthalmoplegia.

Card Specimens:

Dr. G. Sutherland: Post-Mortem Specimens from a Case of Myasthenia Gravis.

Dr. S. A. K. Wilson: Specimens from a Case of Myasthenia Gravis.

N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. W. Carson); X Rays. 4.30 P.M., Medical In-patient (Dr. A. J. Whiting).

TUESDAY.—Clinic: 10 A.M., Medical Out-patient (Dr. A. G. Auld). 2.30 P.M., Operations (Mr. Carson). Clinics:—Surgical Out-patient (Mr. W. Edmunds); Gynæcological (Dr. A. E. Giles). 3 P.M., Demonstration:—Dr. F. Thomson: Infectious Fevers (at the North-Eastern Fever Hospital, St. Ann's-road, N.).

WEDNESDAY.—Clinics:—2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. H. W. Carson); X Rays. 3 P.M., Medical In-patient (Dr. G. P. Chappel). Demonstration:—Dr. F. Thomson: Infectious Fevers (at the North-Eastern Fever Hospital, St. Ann's-road, N.).

FRIDAY.—10 A.M., Clinic:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Operations (Mr. W. Edmunds). Clinics:—Medical Out-patient (Dr. A. G. Auld); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Sir Dyce Duckworth: Medicine. 3.15 P.M., Mr. Turner: Surgery. 4 P.M., Mr. Lawrence: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

TUESDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Wells: Medicine. 3.15 P.M., Mr. Carless: Surgery. 4 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Dr. Sale-Barker: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

FRIDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

SATURDAY.—2 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, 73, Welbeck-street, W.

MONDAY.—3 P.M., Clinical Demonstration: Dr. H. Campbell.
TUESDAY.—5 P.M., Clinical Demonstration: Dr. J. Mackenzie.
WEDNESDAY.—3 P.M., Clinical Demonstration: Dr. F. Palmer.
THURSDAY.—3 P.M., Clinical Demonstration: Dr. T. D. Savill.
FRIDAY.—2 P.M., Clinical Demonstration: Dr. P. Stewart. 5.30 P.M., Clinical Demonstration: Dr. R. Macnamara.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (5th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.).

TUESDAY (6th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

WEDNESDAY (7th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

THURSDAY (8th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

FRIDAY (9th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

SATURDAY (10th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospital operations are performed daily.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 1st, 1909.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Mar. 26	29·49	N.W.	0·07	83	49	40	39	42	Cloudy
,, 27	29·84	W.	...	93	52	35	36	39	Fine
,, 28	29·49	S.E.	0·05	59	53	39	46	47	Raining
,, 29	29·23	S.W.	0·20	102	60	47	50	52	Cloudy
,, 30	29·17	S.	0·06	60	52	48	47	48	Raining
,, 31	29·60	S.W.	0·31	83	52	43	44	47	Fine
April 1	29·86	N.	...	53	45	44	43	44	Overcast

During the week marked copies of the following newspapers have been received:—*Northern Daily Mail, Birmingham Post, Surrey Mirror, Daily Express, Morning Leader, Glasgow Herald, Belfast Whig, Glasgow Citizen, Worcester Journal, Literary Digest (New York), Edinburgh Evening Despatch, Morning Advertiser, Daily Telegraph, Liverpool Courier, Sunderland Echo, Kent Messenger, Dublin Times,* &c.

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